

# TECHNOLOGY

## REVIEW *January* 1955



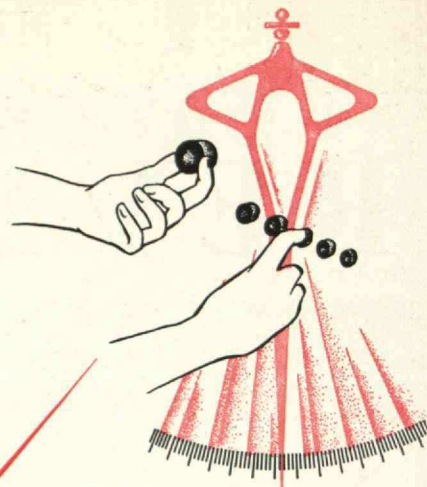
# technology review

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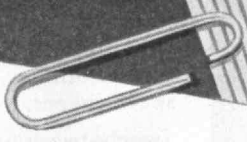
Relocation of applicant must not cause  
disruption of an urgent military project.

## THE TABULAR VIEW

**Maps, Interestingly Treated.** — Man has wandered over the face of the earth long before he was able to record his activities. So long as his roving were limited to the narrow confines of a day's walk or two, man learned to recognize his home territory through daily familiarity. But as man traveled farther afield, he needed charts to record his progress and mark the way for those to follow. The earliest known maps were crude drawings, without direction, scale or co-ordinate systems as we know them. As early as the beginning of the Christian Era, however, these features were incorporated in the maps of Ptolemy whose work represents the peak of ancient cartography. Map making fell into decline with the passage of the early Greek and Roman Empires and made its next important step with the invention of the printing press, introduction of the compass for nautical use, and the inauguration of the era of exploration. Today, maps of reasonable precision are available for the asking at gasoline service stations. The fascinating story of maps is told (page 133) by COLONEL JOHN G. LADD, who is a native of Missouri and a graduate of George Washington University with a degree in civil engineering. Before being called to active duty in 1941, he served 18 years with the United States Coast and Geodetic Survey in the fields of charting and mapping. After serving in England as Intelligence Engineer with the II Corps, he was assigned to Headquarters, 5th Army, serving as Engineer Intelligence Officer in Algiers, Morocco, and Italy. In 1946, on returning to the United States, he became Chief of the Engineer Intelligence Division of the Office of the Chief of Engineers. From 1949 to 1953 he was commanding officer of the Army Map Service. He was awarded the Legion of Merit for outstanding service in North Africa and Italy in planning mapping policies and directing the production of maps and survey data required for beach landing and invasion operations.

**Minor Industrial Transformation.** — A new era of technology was ushered in when the world's first atomic reactor was put into operation at Stagg Field at the University of Chicago during World War II. Since that time, much thought and effort has been expended on means for producing atomic energy for industrial purposes, and already the United States and England have made fissionable material available in support of President Eisenhower's "atoms for peace" plan. Desirable as may be such an objective, nevertheless, it raises questions as to how the new source of energy will affect existing industries. ROBERT E. WILSON, '16, answers the question (page 139) for the petroleum industry in his article "The Probable Impact of Atomic Energy on the Petroleum Industry" which was delivered as an address before the Atomic Energy Conference of the National Industrial Conference Board in New York on October 14, 1954. As chairman of the board of the Standard Oil Company (Indiana), Dr. Wilson's thoughts on this topic have special significance. Dr. Wilson received the Ph.B. degree from the College of Wooster in 1914, and the S.B. degree in chemical engineering from M.I.T. in 1916. He also holds more than half a dozen honorary doctorates. Except for service in the Chemical Warfare Service during World War I, Dr. Wilson was on the Institute's staff from 1916 to 1922. Since 1922, when he joined Standard Oil (Indiana), his responsibilities have become progressively great. He was assistant director of research, 1922-1928; assistant to the vice-president in charge of manufacturing, (Concluded on page 126)

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## THE TABULAR VIEW

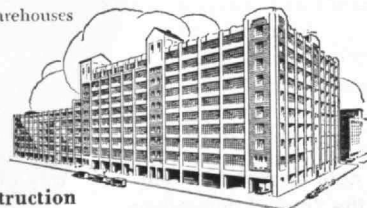
(Concluded from page 124)

1929-1930; director and vice-president in charge of research and development, 1931-1934; chairman of the board and chief executive officer since 1945. He was vice-chairman of Pan American Petroleum and Transport Company, 1935-1937 and president of that firm from 1937-1944. Dr. Wilson is a life member of the M.I.T. Corporation.

**Maturity In Training.** — A major function of any institution of higher education is — or should be — to develop maturity of thought and judgment in its students. One highly effective program is in operation at the present time at the Institute and is discussed in a two-part article by DR. DANA L. FARNSWORTH, who, as Medical Director, established the present program. The first part of Dr. Farnsworth's article (page 143) discusses those factors which facilitate the development of maturity; the second part, which will appear in the February, 1955, Review, will deal with the M.I.T. program. Dr. Farnsworth is a native of Troy, W. Va. He was graduated with the degree of bachelor of arts from West Virginia University in 1927 and continued his work to win the degree of bachelor of science in 1931. From 1927 to 1929 he taught chemistry and physics in the high school of Bar-rackville, W. Va., and then entered the Harvard Medical School, from which he was graduated in 1933. Dr. Farnsworth served his internship at the Massachusetts General Hospital from 1933 to 1935, when he became assistant resident in the sanatorium division of the Boston City Hospital in Mattapan. He holds the diploma of the American Board of Psychiatry and Neurology. From 1935 to 1945 Dr. Farnsworth was assistant director of health at Williams College and was granted a leave of absence to enter the medical corps of the Navy, in which he served as a commander on active duty from 1941 to October, 1945. During this period he was on the neuro-psychiatric staff of several naval hospitals. He was medical director at M.I.T. from 1946 to 1954, and acting dean of students, 1950 to 1951. Technology's loss was Harvard's gain last summer, when Dr. Farnsworth became Henry K. Oliver Professor of Hygiene and Director of the University Health Services.

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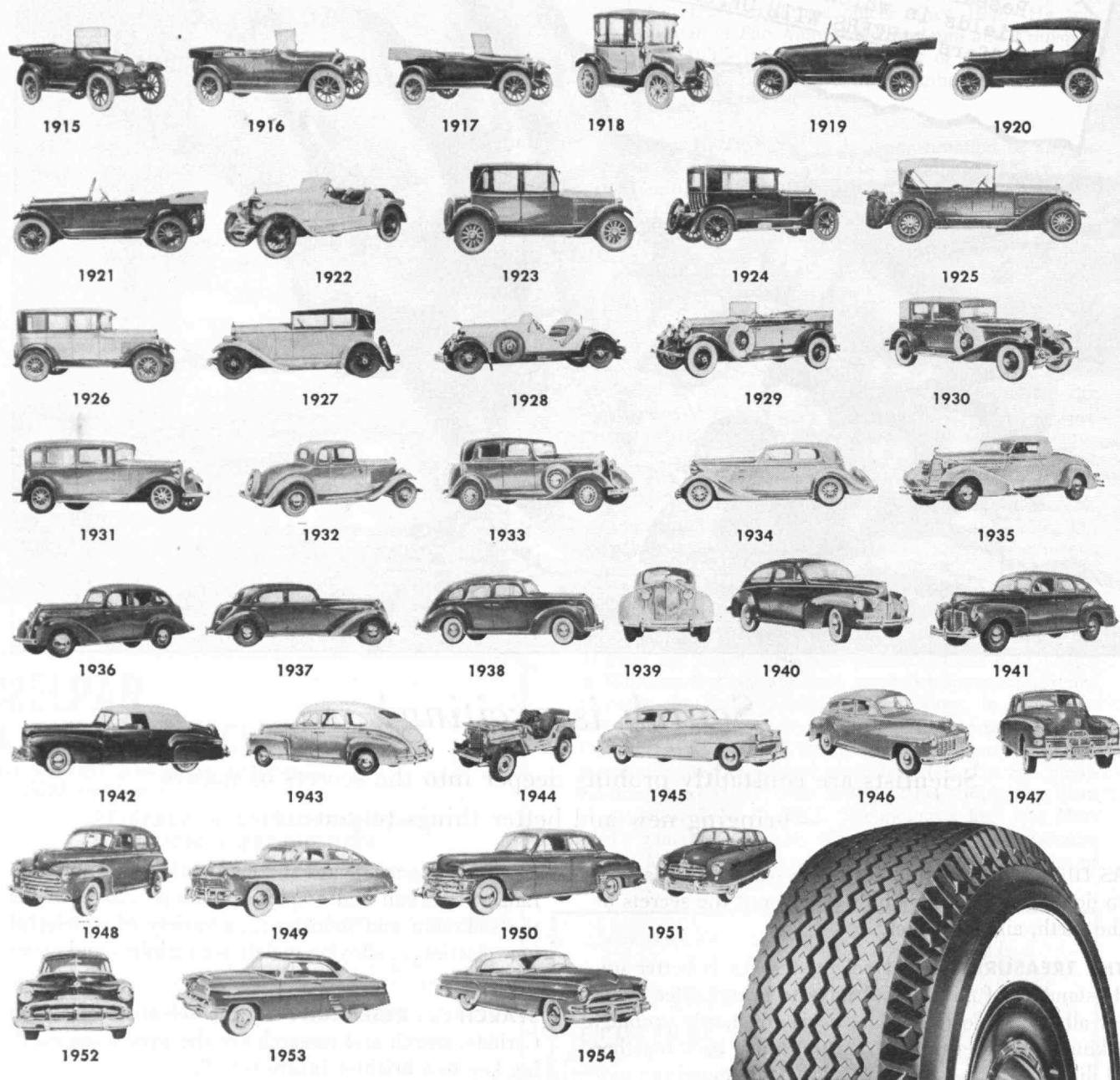
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## CONTENTS

### OIL TANKER DOCKED AT MOREHEAD TERMINAL, N.C.

PHOTOGRAPH BY BUBLEY FROM STANDARD OIL CO. (N.J.) ... THE COVER

### MOUNT ADAMS, WHITE MOUNTAINS, N.H.

PHOTOGRAPH BY RAYMOND E. HANSON ..... FRONTISPICE 130

### MAPS, OLD AND NEW ..... BY JOHN G. LADD 133

*Man's explorations over the surface of the earth have been facilitated by, and have made possible improvements in, map making. Major contributions to cartography have come from astronomy, mathematics, surveying, the graphic arts, and — in recent years — even from electronics.*

### PROBABLE IMPACT OF ATOMIC ENERGY ON

THE PETROLEUM INDUSTRY ..... BY ROBERT E. WILSON 139

*Atomic energy and petroleum products are both needed to carry the nation's increasing demand for power. Dr. Wilson believes that, during the next quarter century, the development of atomic energy will aid the oil industry rather than hinder it through subsidized competition.*

### MATURITY THROUGH STUDENT COUNSELING, PART I

BY DANA L. FARNSWORTH 143

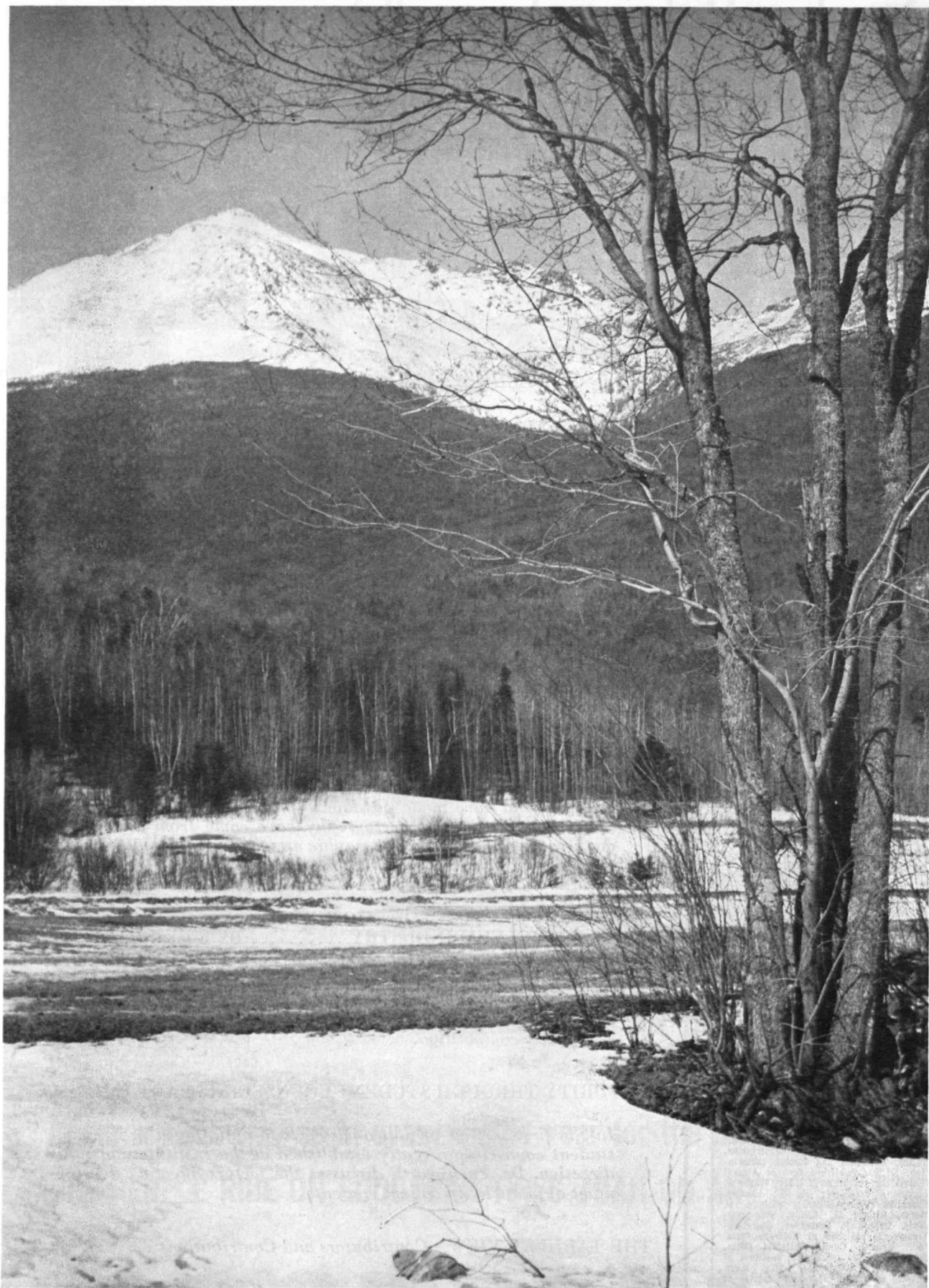
*In the first section of a two-part article outlining a program of student counseling recently established at the Institute under his direction, Dr. Farnsworth discusses the factors affecting development of maturity in college students*

### THE TABULAR VIEW • Contributors and Contributions ..... 124

### THE TREND OF AFFAIRS • News of Science and Engineering ..... 131

### THE INSTITUTE GAZETTE • Relating to the Massachusetts Institute of Technology ..... 146

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Raymond E. Hanson

*Mount Adams — in New Hampshire's White Mountains*

# THE TECHNOLOGY REVIEW

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January, 1955



## The Trend of Affairs

### *Immortality in a Test Tube*

**I**N due course living things stop growing, then show signs of aging, ultimately die; all living things, that is, except parts of animals or plants maintained in tissue cultures. The animal connective tissue cells called fibroblasts, for example, kept in tissue culture so that they are well provided with food, and waste products removed, continue to grow vigorously for indefinite periods of time. Thus although the life span of domestic chickens is but a few years, chick fibroblasts placed in tissue culture decades ago are still growing as lustily as ever; and barring some technical accident to the cultures apparently will continue to enjoy perennial youth forever. Tissue culture is indeed immortality in a test tube.

Pioneer work done by Alexis Carrel, around 1910, is the basis of modern tissue culture. The techniques used are essentially simple, but require fastidious care and great skill. Successful tissue culturists are artists as well as scientists; they need to possess some indefinable attribute analogous to the green thumb of the successful gardener.

Basically, tissue culture involves placing a bit of tissue, freshly cut from a living animal, in a clot of coagulated blood plasma within a glass container. All materials and implements must be sterile and all manipulations carried out aseptically, because if bacteria enter the cultures they quickly destroy the tissues. Tissue cultures are incubated at body temperature. They are supplied with food in a nutrient fluid, and are washed periodically to remove waste products. The culture containers may be held stationary, or may be slowly rotated by machinery to effect circulation of the nutrient fluid.

A recently developed variation stems from the observation that cells in culture will adhere to a smooth impervious surface, such as glass, and grow along this

surface in a thin sheet. To provide a large surface area, crumpled cellophane or a mass of tiny glass helices may be placed within the culture container. This procedure makes unnecessary the use of a plasma clot to support the tissue. It also enables production of cultured cells in vastly greater quantities than heretofore possible.

Tissues grown in culture often lose their characteristic form and arrangement, but usually retain their biochemical characteristics. For example, liver cells in culture cease to look like normal liver cells under the microscope; but continue, like normal liver cells, to accumulate glycogen. Work is now being done on the growing of whole animal organs as intact structures. A number of organs taken from embryos, and a few from adult animals, have so far been grown in tissue culture as organized entities.

Animal tissues were the first to be cultured. But today plant tissue culture is in the forefront, mainly because of the inherent hardness of plants, which makes their maintenance in culture relatively easy. Thus a variety of plant tissues thrive in culture when provided with nutrients consisting of a few chemicals of known identity. Human or animal tissues, contrariwise, usually grow only when provided with embryo juice, a complex mixture whose chemical constitution is not fully known. So long as this unknown factor is involved in animal tissue culture, a strong element of obscurity remains.

Complete plant organs, such as roots, may be maintained in culture. Plant embryos, dissected out of seeds, thrive in tissue culture and mature into adult plants. Even entire plants — for example duckweed, the tiny green plant often seen covering the surface of stagnant fresh water ponds — thrive in tissue culture.

Tissue culture has been called the most powerful instrument for research in cellular physiology. Its particular value is the opportunity it affords to study



living cells away from the complex and confusing environment created by other tissues, of different types, within the intact animal or plant. It is even possible to take motion pictures of changes within cells as they grow in tissue culture.

A number of human, animal, and plant tumors thrive in tissue culture. Hence this procedure is fruitfully used today in cancer research, and also in studies of plant tumors. Some tumors can be maintained for a while in culture, then transplanted back to animals or plants.

Aside from its unparalleled research value, tissue culture has become a tool of considerable practical utility. Modern orchid growers use tissue culture techniques routinely. Horticulturists have begun to use embryo culture to develop new varieties of garden flowers and trees. The seeds of such higher plants often take years to germinate; and then the plants may have to grow for additional years before it can be seen whether they possess the characteristics sought. By dissecting embryos out of seeds and growing them in tissue culture, the entire sprouting and maturing cycle is greatly accelerated, and may be accomplished within a span of weeks instead of years.

### ***Binding of Small Anions***

**R**ECENT studies of the physical chemistry of protein solutions, conducted by Professor George Scatchard and his co-workers in the Department of Chemistry, are aimed at determining the means by which small negatively charged ions are bound to proteins. As in all scientific research, the studies are aimed at contributing to man's knowledge, and the primary usefulness of current studies on relatively simple reactions is the light they may be expected to throw on more complex ones, such, for example, as those involving enzymes.

Nevertheless, this knowledge is not without potential utility. Indeed pharmacologists are already making applications which depend only upon the knowledge of general principles and of the fact that some molecules are bound more tightly than others. If they want a drug to act very quickly and to stop soon, they choose one that is not bound much to albumin or other plasma protein. If they desire a drug which will act slowly over a long period of time, they look for one that is bound tightly to some sites that are present in relatively large concentrations.

The study thus far has been concentrated upon the plasma proteins, particularly upon albumin, the most abundant, and in many ways the most active. Serum albumin has a molecular weight of 69,000 and contains 10,000 atoms, about half of which are hydrogen. Its molecule is probably shaped like a long egg or a fat cigar. The neutral molecule contains about 100 positive charges, mostly on substituted ammonium groups, and 100 negative charges, mostly on carboxyl groups. In the plasma, 20 of the ammonium groups have each lost a proton, so each molecule has a net negative charge of 20.

Much of the reactivity of — and therefore the interest in — albumin depends upon these 200 charged groups, since each tends to provide a site at which ions of the opposite charge may be bound to the molecule. Investigations under way aim to determine

how many of each type of ion may be bound, and what practical use can be made of this knowledge. The tightness by which an ion or small molecule is bound to a protein at a particular site is measured by the  $pK$ . This  $pK$  is the negative logarithm of the concentration of the small molecule, measured under somewhat idealized conditions, when the chance of a small molecule being bound at a site is equal to the chance that nothing is bound there.

Protons and small positively charged ions behave, with respect to the groups bearing charges in proteins, much as they behave with respect to the same groups in smaller molecules. Hence studies on small molecules hint at results we should expect to obtain with large molecules.

The small anions behave very differently. Each of the amino groups in proteins appears capable of binding an anion if the concentration is sufficient, although the same groups in small molecules are not able to do so. Moreover, there are several sites in serum albumin with much larger values of  $pK$  than in any other molecule which contains the same amino acids.

The studies of the binding of small anions have recently benefited from anion exchangers in two ways. They enable more complete elimination of small ions and better purification, and, in the form of membranes, ion exchangers can also be used as electrodes.

When an electrical potential is applied across a membrane of a strong base anion exchanger, the positively charged ions are fixed, and any current that flows is carried by small anions. The membrane process involves the transfer from the aqueous solution on one side to that on the other of one equivalent of a small anion for each equivalent of electricity, and the membrane is an anion electrode in the same sense that a glass electrode is a hydrogen electrode. A strong acid cation exchanger differs in that the fixed ions are negatively charged, and any current that flows is carried by small cations. A pair of anion and cation exchanger membranes may be used to measure the chemical potential of a salt in a protein solution.

Using these membranes, James S. Coleman, '54, in his doctoral thesis with Professor Scatchard, has found that chloride ion is bound to one site on each neutral human serum mercaptalbumin with a  $pK$  of 3.4, to eight other sites with a  $pK$  of 2.0 and to 18 others with a  $pK$  of 0.5. They also found that the iodide ion is bound to the same number of sites, but the value of each  $pK$  is 0.6 greater in this case than with chloride ions. With Mrs. Amy L. Shen, '53, research assistant, they found that thiocyanate and trichloroacetate ions are probably bound at the same sites with values of  $pK$  1.3 greater than those found for the chloride ion.

The greatest usefulness of these results will probably be that the better understanding of these relatively simple interactions will help in understanding more complex ones. The next step in understanding is to learn the nature of the sites at which ions are bound. This will require studies with other anions, with other proteins, and with proteins modified in some known way.

# Maps, Old and New

*Man's Knowledge of the Surface of the Earth Has Been Greatly Facilitated through Major Contributions from Astronomy, Mathematics, Surveying, and the Graphic Arts*

By JOHN G. LADD

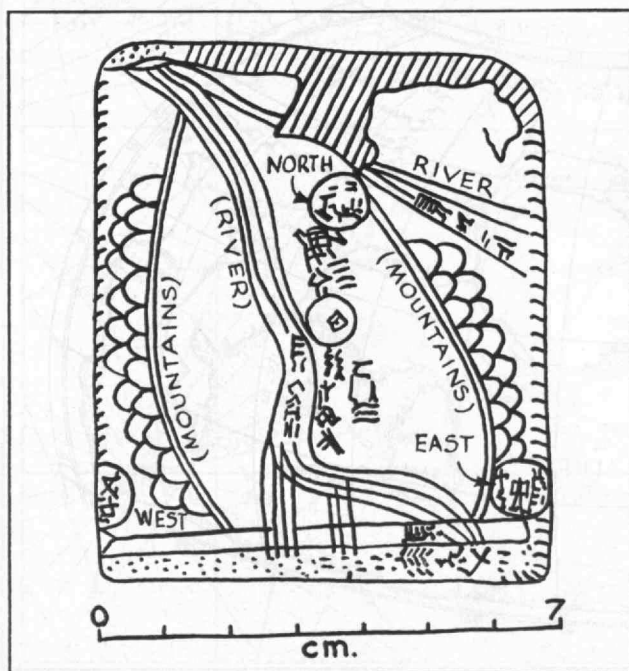
**M**EN have been making maps for thousands of years. They have expanded and improved types and mapping techniques, but basically the purpose of a map today remains what it was in the beginning—to show men how to get from one place to another. As man broadened his horizons, both geographically and scientifically, so his need for more and better maps increased in like ratio. Whereas the Phoenician sailor required knowledge of only a few hundred miles of Mediterranean coast line in his travels, today's pilot of a commercial jet air liner, flying a scheduled trip from London to Cape Town in less than 20 hours, must know his position over thousands of miles of land and water.

Going back thousands of years we find that one of the earliest known maps is a clay tablet some 4,500 years old, discovered by archaeologists near Babylon. On this tablet, the unknown cartographer drew a range of mountains near a river (probably the Euphrates). In portraying what was perhaps his entire known world, this draftsman symbolized his mountains with a "fish-scale" pattern.

The Chinese were also mapping their own country before the Christian Era, with the earliest reference to one of their maps dating back to 227 B.C. In fact, much of China had been "mapped" after a fashion, before the first visit by Western man. One Chinese map of the empire was made of wood blocks that could be taken apart like a jigsaw puzzle, province by province. After the invention of paper (100 A.D.) the Chinese made maps, probably for administrative purposes, covering all parts of their country. In their mapping, the Chinese depicted the earth as a flat surface with China in the center.

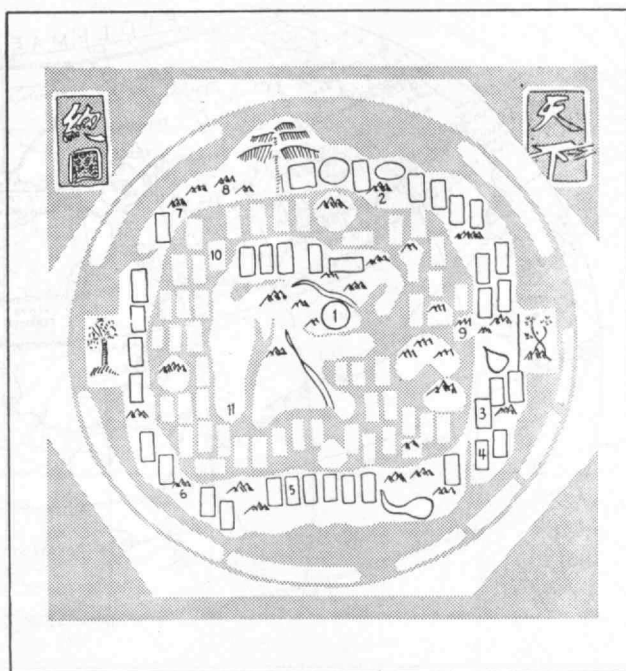
In the ancient Greek civilization, cartography was developed to a point not equaled again until the Sixteenth Century. The Greeks suggested theories of the earth's spherical shape, and its poles, equator, and zones; they developed concepts of latitude and longitude, devised the first projections, and calculated the size of the earth.

Outstanding among Greek cartographers were Eratosthenes, Poseidonius and Ptolemy. Eratosthenes (c. 276–194 B.C.) measured the circumference of the



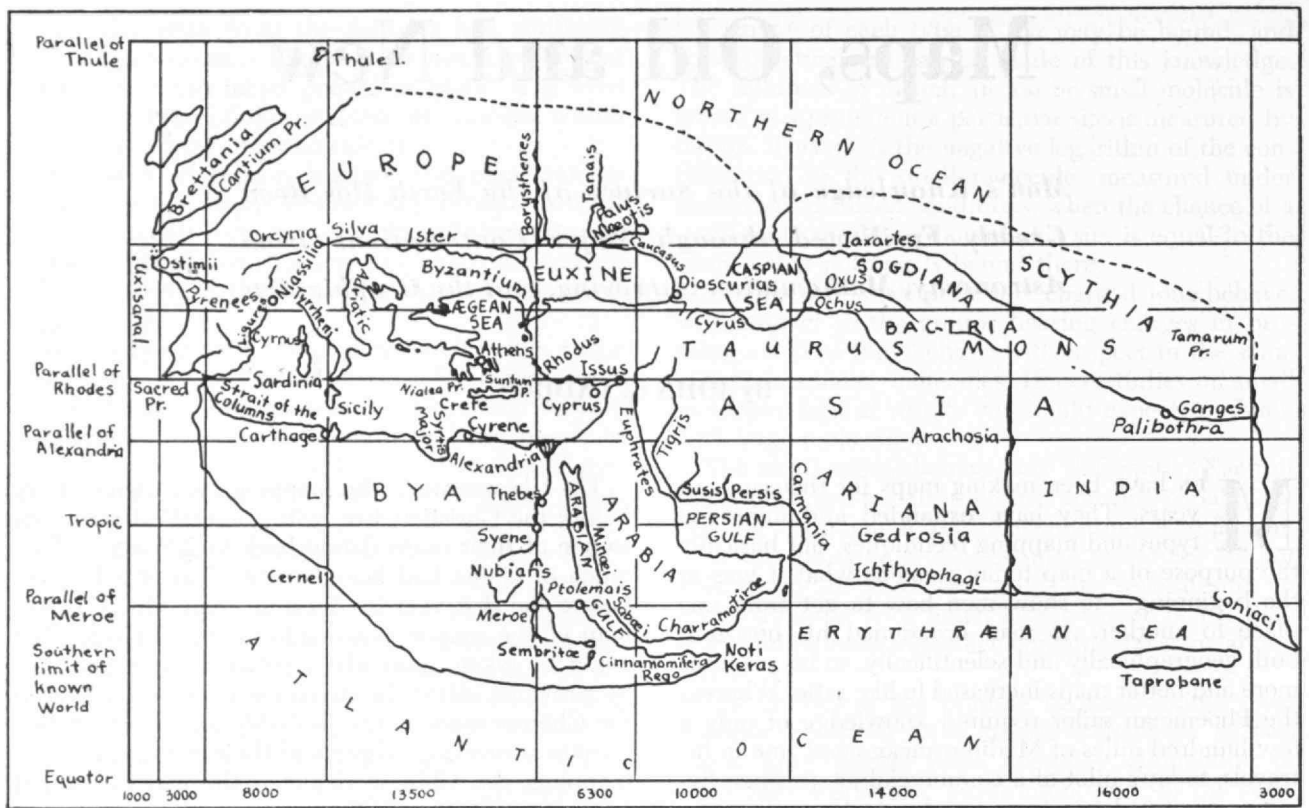
Adapted from General Cartography by Raisz

Fig. 1. Clay tablet in the Semitic Museum of Harvard University is believed to be 4,500 years old, and to be the world's oldest map.



Adapted from General Cartography by Raisz

Fig. 2. Old Chinese map, showing China (circle with 1 in center), India (11), and land of white people (10), places North at top.

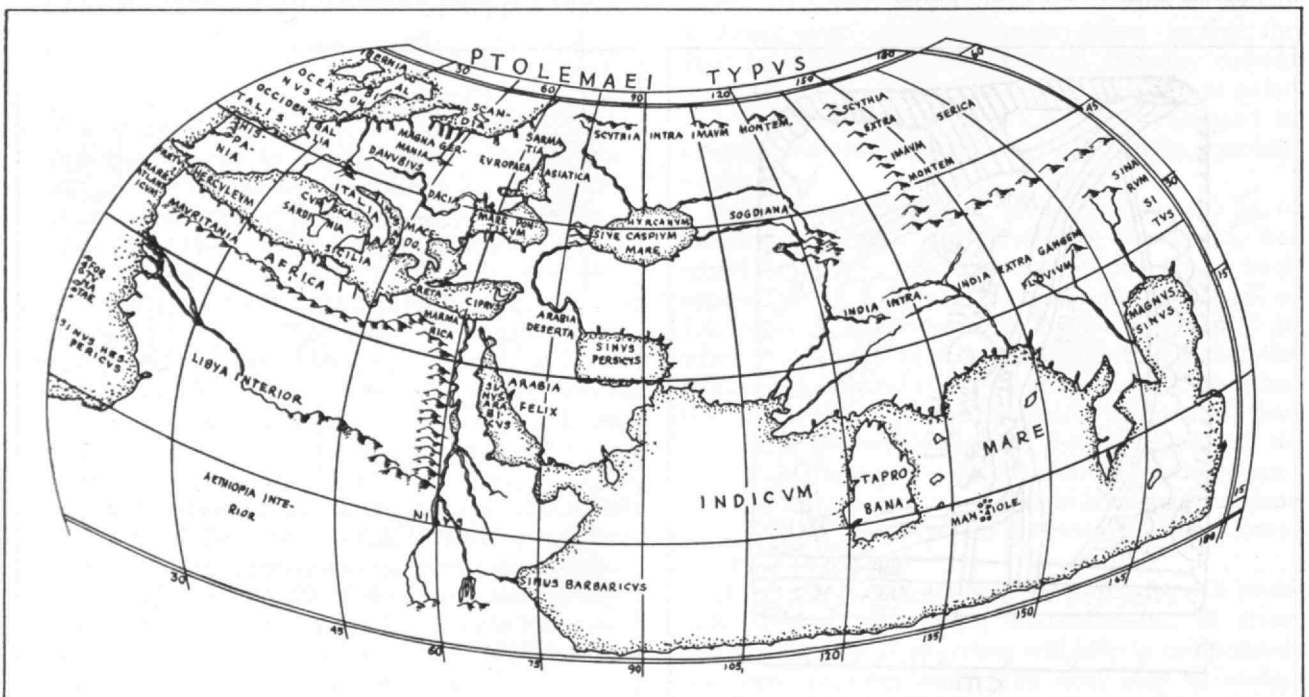


Adapted from Maps by Birch

Fig. 3. Eratosthenes of Alexandria pictured the world of about 200 B.C. as shown above, with arbitrarily selected network of meridians and parallels.

earth, using Egyptian land surveys and the angle of the noonday sun at two points, Alexandria and Syenê. Considering scientific knowledge and equipment in his day, the accuracy of his measurements was remarkable. Poseidonius (c. 130–50 B.C.) measured the earth by means of star observations about 100

years after Eratosthenes. His measurements, based upon the accepted, though incorrect, distance between Alexandria and Rhodes, unfortunately resulted in a figure one-quarter too small for the circumference of the earth. This geographical understatement was perpetuated on maps for centuries, and thus it was





that Columbus, thinking that the Western Sea did not appear too wide or forbidding, attempted to reach the Indies by sailing westwards.

Perhaps the most influential figure in cartographic history was Ptolemy (c. 90–168 A.D.). His *Geographia* constituted the first general atlas of the world, containing, in addition to numerous maps, descriptions of two projections and a list of 8,000 places with their locations given by latitude and longitude. His use of lines of latitude and longitude was the chief revolutionary feature found on his maps. Ptolemy also oriented his maps to the north and insisted on the sphericity of the earth in his writings. During Ptolemy's lifetime, cartography reached its highest point of development; soon after, it went into a decline and only emerged again toward the end of the Middle Ages, with the voyages of the Genoese, Spanish, and Portuguese seamen and navigators. Ptolemy's great *Geographia* was lost for hundreds of years until it reappeared during the Fifteenth Century.

The Roman Empire at the height of its power had complete map coverage of its communications and all the lands in its empire. Many Roman maps were road maps, which gave mileages, military posts, and place names. The Peutinger Table, best known among them, showed the Empire's roads in the Third Century A.D. Also well known was the *Orbis Terrarum*, which portrayed the three great continents with Asia and the East at the top of the map; from this practice came the term "orientation." East remained at the top until the introduction (about 1302) of the compass.

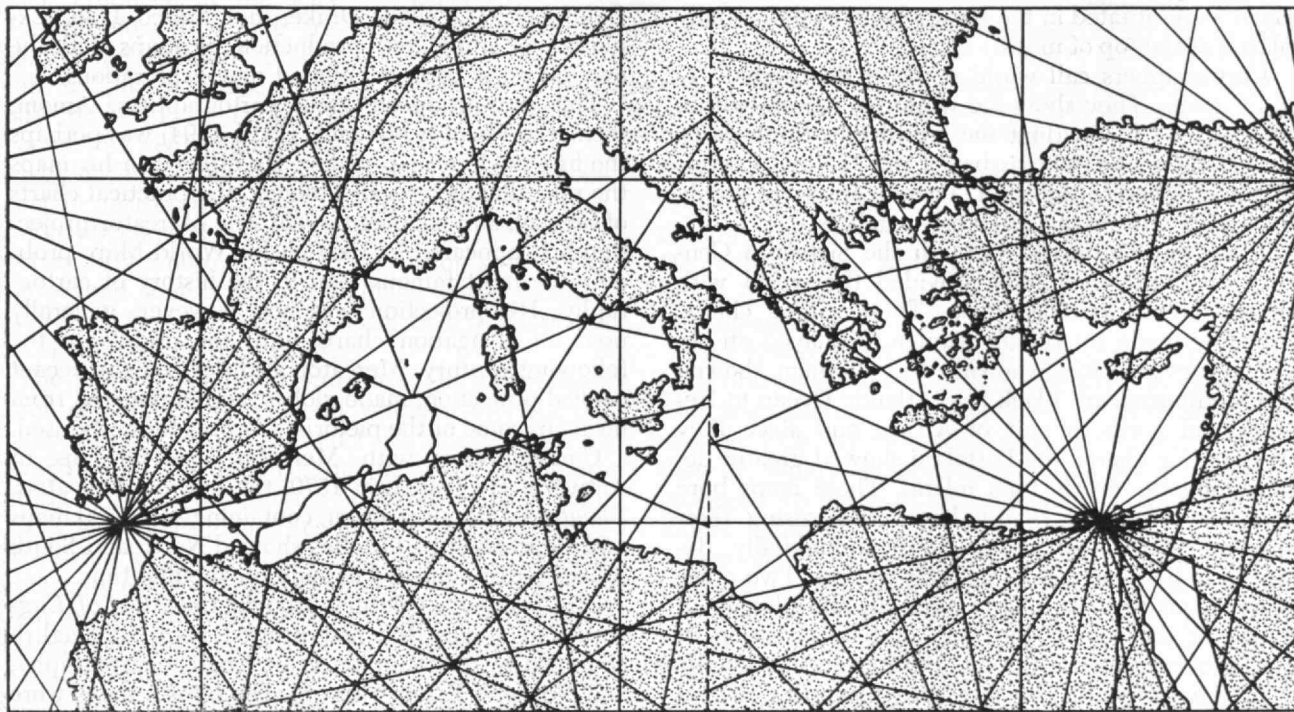
During the Middle Ages with the disintegration of the Roman Empire the power of the church was rapidly ascending. This period showed little or no advances in any of the sciences, including cartography.



Adapted from *Story of Maps* by Brown

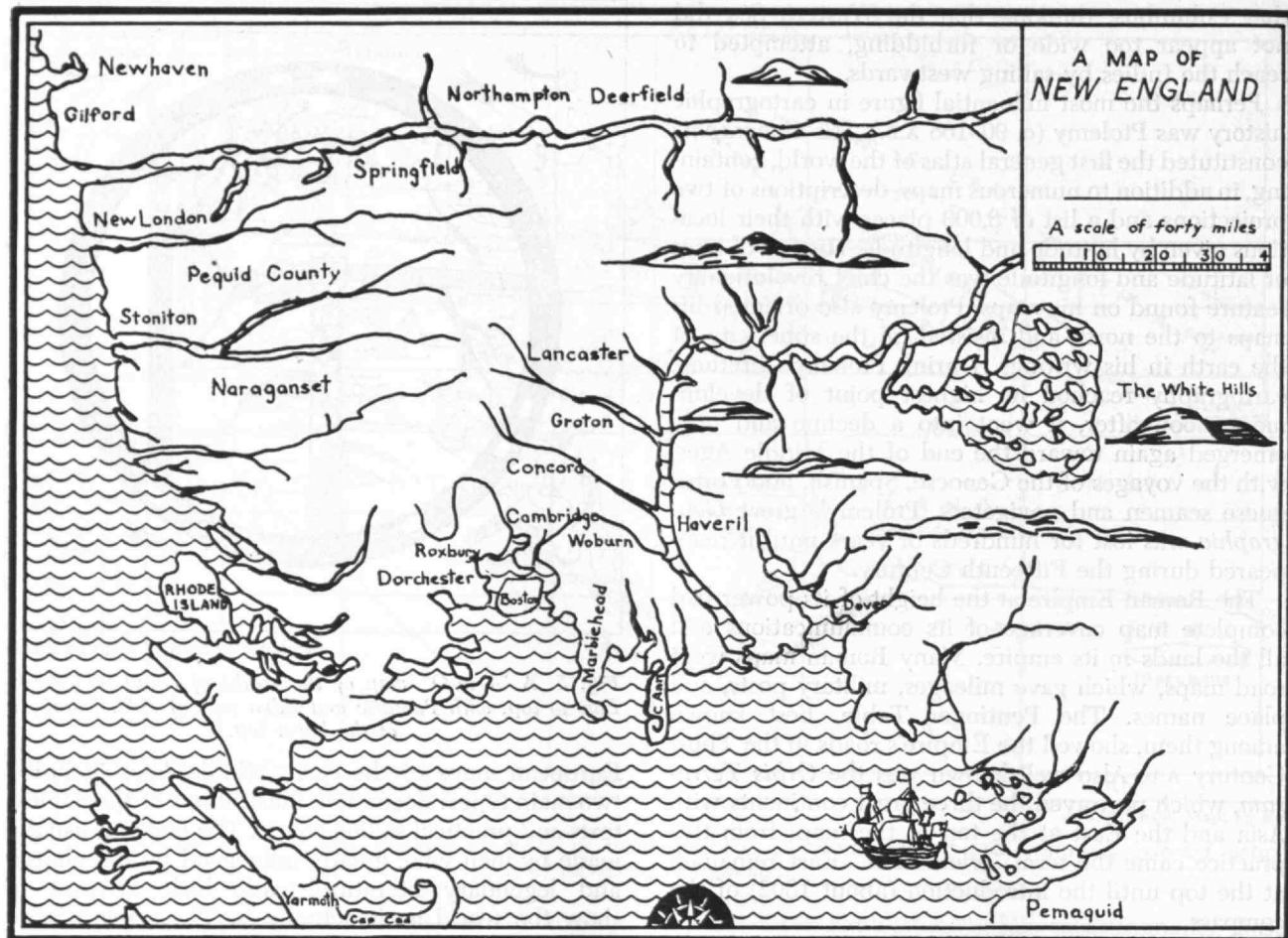
Fig. 5. A "T-in-O" map of the world of about 900 shows East to top, with Paradise and Eden part of Asia. Europe is at the lower left.

European maps of the early Middle Ages included two main types: decorative illustrations of theological texts and practical sailing charts. The first was usually made by men who, greatly influenced by the church and legendary literature, made little attempt to show the world as it actually is. These maps were not accurate; accuracy was not possible at that time nor even considered desirable. The map-maker of the Middle Ages also believed the world to be disk-shaped. He thought that Paradise and the Garden of



Adapted from *Maps* by Birch

Fig. 6. Portolan chart of 1500. Such maps were prepared especially for use by sailors, and accordingly, show coast lines (particularly of the Mediterranean Sea and adjacent areas) with greater accuracy than had previously been customary. Rhumb lines from selected points were inserted as aids to navigation.



Adapted from General Cartography by Raisz

Fig. 7. First map drawn, engraved, printed, and published in the American colonies was reproduced from a woodcut by John Foster, done in Boston in 1677. West is at the top.

Eden were situated in the East, which he, too, usually placed at the top of maps.

Cartographers call world maps of this period "T-in-O" maps. They show the world as a circle within which is a "T" dividing the world into three parts. Asia stood above the crossbar of the "T," and Europe and Africa beside the stem. These maps were highly decorated with many legendary symbols.

From the Thirteenth through the Sixteenth Century the Portolan Charts provided the world with the first really practical map. These sailing charts, probably made by Italian seamen, displayed an accuracy never before known. Most of them showed the Mediterranean, Black Sea, Atlantic Ocean to Ireland, and northern coast of Africa; and since they were sailing charts, the Portolani showed greater detail along the coasts than inland. These maps bore compass roses and rhumb lines crisscrossing their surface; these innovations were undoubtedly designed to help navigators fix their courses. Two other features made these charts unusual: the placing of North at the top of the map and a correction of earlier overestimations of the Mediterranean's length.

In the Fifteenth and Sixteenth Centuries several factors gave a notable stimulus to map making. They were the rediscovery of Ptolemy's *Geographia*, translated into Latin about 1405; the invention of printing and engraving; and travels, such as those of

Columbus, Magellan, Drake, and Marco Polo. Explorations stimulated production of maps and the new maps, in turn, stimulated new explorations.

This era produced great cartographers. Among them, the Flemish Mercator (1512–1594) was perhaps the first modern map maker. He utilized in his maps the scientific theories of Ptolemy, the practical charts of his day, and his own travels. The Mercator projection first appeared in 1569 on his World Map, probably the most famous map in the history of cartography. His projection was not, however, generally used on navigation charts until the middle of the following century. Mercator also devised the secant conical projection, made globes, and eliminated from his maps some of the pictorial features formerly used.

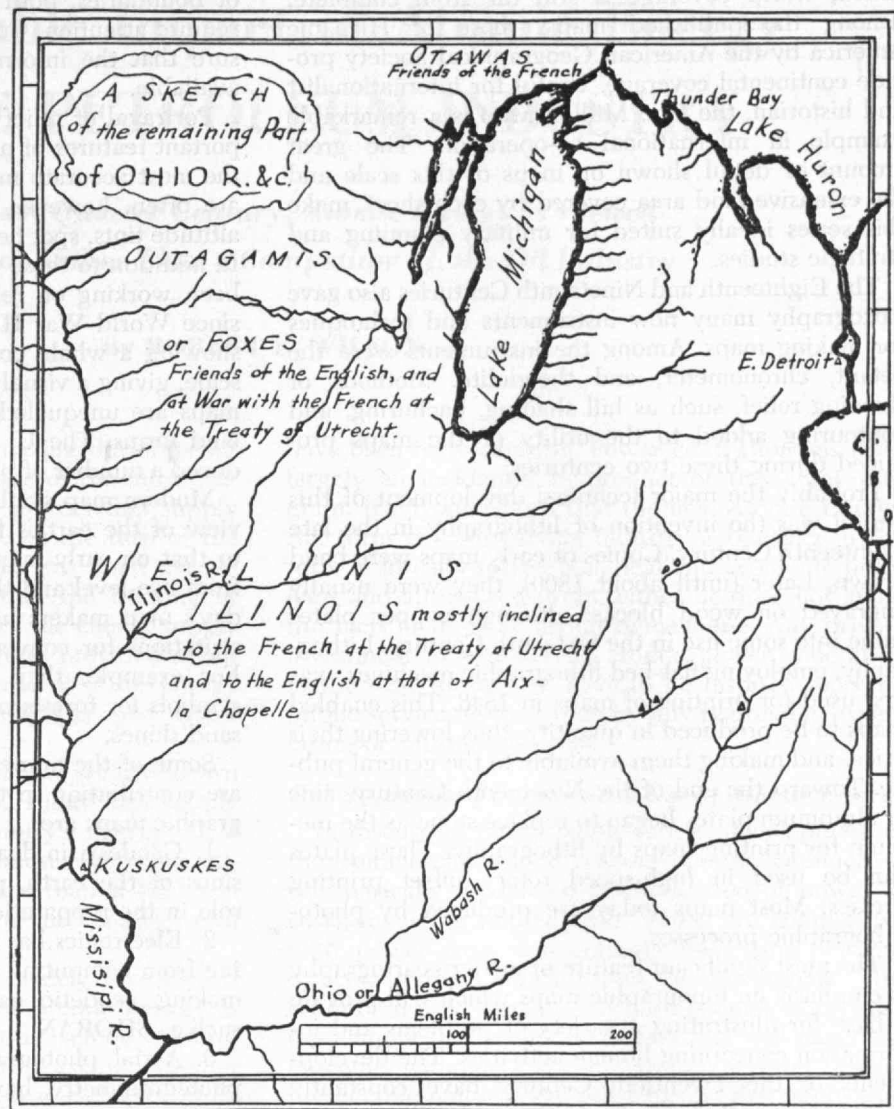
Contemporary with Mercator was Ortelius of Antwerp. He issued, in 1570, the first modern atlas, *Theatrum Orbis Terrarum*, containing some 500 maps and views of cities. Ortelius showed North and South America distinguished as such for the first time.

The Sixteenth Century brought the *Atlas of England and Wales* (the first printed maps of English counties) by Saxton, pioneer of English cartography, and Norden's Estate Surveys. The latter's maps were the first to show a reference grid. Another notable English map was the chart of the world in 1599. Constructed on Mercator's projection, this map depicted Drake's voyages.

In the Seventeenth Century appeared the first map made in America, a crude woodcut by John Foster, pioneer Boston printer. (On it, West is shown at the top of the map.) During this century, the Dutch, Italians, British, and French produced numerous world maps as well as many maps of their own countries. The Eighteenth and the early Nineteenth Century constituted an age of almost constant warfare in Europe. The armies needed maps to move troops and to enable artillery fire to reach its objectives. This period saw the growth of military maps, especially topographic maps, as army commanders learned their value. France and England dominated the period and their military activities, especially Napoleon's campaigns, stimulated production of surveys and maps at a greatly accelerated pace. France made the first national survey based on triangulation and astronomical observations. Cassini, a scientific cartographer, provided the impetus for this survey, which led to the topographic map of France about 1750. Produced at the scale of 1:86,400, this map remained the standard French map for many years, being fully replaced in 1914. Although this map depicted relief by hachures, the age of contours (which indicate relief in measurable terms) was beginning. Contours had first been used in the early Eighteenth Century to portray a river bottom. Among the cartographers who appreciated contouring was Laplace who persuaded the French Government Surveys in 1816 to adopt the use of contours on their maps.

The late Eighteenth Century brought the triangulation of England by General William Roy and the connection of the London and Paris observatories by triangulation. The first map, one-inch-to-one-mile, resulting from the Roy survey, appeared in 1801. John Cary's map of England, Scotland, and Wales, using Greenwich as prime meridian, came in 1794. At first practically every country adopted its own prime meridian, usually the one through its capital. Greenwich is the prime meridian used on most maps today.

While the Europeans were busily engaged in producing fairly accurate maps of their own countries, the colonists in North America were beginning to take up mapping in a fairly extensive way. Perhaps the outstanding American map of the Eighteenth Century was Evans' map of "The Middle British



Adapted from General Cartography by Raisz

Fig. 8. The Lewis Evans map of the Middle British Colonies was produced in 1755, from copper plate cut by James Turner. The map was printed in Philadelphia, possibly on presses owned by Benjamin Franklin.

Colonies, 1755." George Washington, both as a surveyor and later as a General during the Revolutionary War, was deeply interested in cartography. He realized from his experiences during the Revolution, how the lack of accurate maps hampered military operations.

The Nineteenth Century brought both expansion of territory and increased interest in maps in America. The first geologic map appeared in 1809, the first atlas in 1823. In the mid-Nineteenth Century, Matthew F. Maury, pioneer of scientific oceanography, produced his charts of ocean currents compiled from sailors' logbooks.

One of the major developments of the Nineteenth Century was the International Map of the World at the scale of 1:1,000,000. A young geographer, Albrecht Penck of Vienna, suggested this map at the Fifth International Geographical Congress at Berne in 1881, but no sheets appeared until 1909. This new mapping concept permitted compilation of a series of maps of international scope, uniform in scale, legend, and projection. More than 30 countries share in the project and although some 400 sheets have been pub-



lished, world coverage is still far from complete. Among the published maps, those of Hispanic America by the American Geographical Society provide continental coverage. Useful for internationalist and historian, the One Million Map is a remarkable example in international co-operation. The great amount of detail shown on maps of this scale and the extensive land area covered by each sheet, make this series ideally suited for military planning and strategic studies.

The Eighteenth and Nineteenth Centuries also gave cartography many new instruments and techniques for making maps. Among the instruments were the octant, chronometer, and theodolite. Methods of showing relief, such as hill shading, hachuring, and contouring added to the utility of the maps produced during these two centuries.

Probably the major technical development of this period was the invention of lithography in the late Eighteenth Century. Copies of early maps were hand drawn. Later (until about 1800), they were usually engraved on wood blocks, although copper plates came into some use in the Sixteenth Century. Lithography, employing flat-bed lithographic machines, was first used for printing of maps in 1846. This enabled maps to be produced in quantity, thus lowering their price, and making them available to the general public. Toward the end of the Nineteenth Century, zinc or aluminum plates began to replace stone as the medium for printing maps by lithography. These plates can be used in high-speed rotary offset printing presses. Most maps today are produced by photolithographic processes.

The most significant feature of modern cartography is emphasis on topographic maps which will provide a base for illustrating a variety of problems and information concerning human activities. The developments of the Twentieth Century have constantly created demands by both civilian and military users for more accurate, detailed information on maps. Accelerated urbanization and consequent development of industrial areas have made property more valuable. Therefore, records of buildings and ownership of land become increasingly important. Vastly increased mechanization of travel and transport has augmented the need for information concerning roads, railroads, and air routes. Communication facilities — telephone, telegraph, radio — require more and more information. Public utilities — gas, water, and electric power — call for accuracy of detail.

Even small-scale maps must be as accurate as possible. This need places stringent requirements on the cartographer. Not only has the need grown for more accurate detail, but instruments and techniques have become more numerous and complicated. The development of mapping equipment has kept pace with the requirements. The cartographer of today must be highly trained to comprehend the processes necessary for making a modern map.

A modern map includes more than proper locations of natural and man-made features. For example, today's cartographer lays great stress on correct spelling of names for countries, provinces, mountains, streams, cities. Much research goes into this problem before names appear on the finished map. Questions

of boundaries, both international and internal, also require attention. Constant vigilance is exerted to assure that the information shown shall be the best available.

Portrayal of relief constitutes one of the most important features of a topographic map. Contours are the most accurate method of indicating relief. They are often, however, supplemented by hill shading, altitude tints, spot heights, form lines, and hachuring. In addition to these methods, military mappers have been working on relief, or three-dimensional, maps since World War II. Some of these are small-scale, showing a whole country or continent; some large-scale, giving a visual portrayal of a small area. Relief maps are unequaled for teaching users to interpret land forms. The U. S. Army Map Service has produced a number of plastic relief maps in recent years.

Modern map symbolization is based on a planned view of the earth's features from above, in contrast to that on early maps which showed many of them from eye-level and therefore in profile. However, today's map makers have returned to pictorial representations for conventional symbols in a few cases. For example, they frequently use individual tree symbols for forests or orchards and profile views for sand dunes.

Some of the numerous interrelated sciences which are contributing in the production of modern topographic maps are:

1. Geodesy, in dealing with the shape and dimensions of the earth, plays an increasingly important role in the preparation of accurate maps.
2. Electronics has made many contributions, ranging from computing machines such as UNIVAC (for making geodetic calculations) to locating devices such as SHORAN.
3. Aerial photography and its corollary science, photogrammetry, have revolutionized the speed and accuracy of map making.
4. The use of helicopters which supplement or often replace fixed-wing airplanes in aerial surveying is helping to solve the problem of surveying in areas of rugged terrain.
5. Radio provides time signals for establishing longitudes in aerial surveying.

In spite of the many advances in cartography, less than 1 per cent of the land area of the earth is adequately mapped at large scale. In 1946 the Joint Mapping and Photographic Committee began standardization of topographic map symbols and specifications for use by U.S. Federal mapping agencies. Technical Manuals prepared under this program cover all phases of map preparation. They were used as a basis for agreements on standardization by the United States, Great Britain, and Canada and are also serving as the foundation for similar agreements by North Atlantic Treaty Organization countries.

The N.A.T.O. program illustrates the vast importance of maps in international relations. One of the first steps called for supplying N.A.T.O. countries with adequate maps. This effort involved printing some 90,000,000 maps — the largest single project in the history of military mapping. The maps for the N.A.T.O. aid international understanding by bilingual

*(Concluded on page 166)*

# The Probable Impact of Atomic Energy ON THE PETROLEUM INDUSTRY

*For the Next Quarter Century, Atomic Energy Is Viewed  
As an Aid to, Rather Than a Competitor of, the Oil Industry*

By ROBERT E. WILSON

**I**N the past half century of amazing development and change in this country, one of the most dramatic shifts has been in the sources that supply our expanding needs for energy. At the turn of the century the statistical information was none too accurate, but best estimates are that the burning of coal provided about 70 per cent of the energy supply of the nation. The burning of wood provided about 20 per cent. The remaining 10 per cent of the energy market was divided between oil, gas, and water power.

By the end of World War I, oil and gas had grown to about 15 per cent of the total. Today they supply close to 60 per cent of the country's energy. Coal has faded and wood has been almost eliminated. Although we have a larger population than in 1918 and use much more energy per capita, the country's coal tonnage has actually decreased.

Now we are entering what is widely heralded as the Atomic Age. The release of atomic energy is probably the outstanding scientific achievement of the century. People are naturally asking whether atomic energy will in the next few decades do to oil what oil and natural gas have done to coal and wood. What, if any, threat does the new challenger pose to the reigning champion.

In trying to appraise the probable impact on our industry, let us disregard the views of a few incurable optimists, who focused their attention only on the enormous power theoretically obtainable from a pound of uranium and were sure, way back in 1945, that atomic energy would soon be producing large quantities of power. Let us also disregard the views of the pessimists, who feel we may never solve the serious problems that still prevent the economical production of atomic power for commercial purposes. Fortunately, there is today a great body of fact and informed opinion which gives one a well-established base between these two extremes.

The author yields to no one in admiration for the research done in government, university, and industrial laboratories on the many problems involved in producing power from atomic fuels. However, it is fair to say that this research has uncovered almost as many new problems, unsuspected in the early days of rosy optimism, as it has fully solved of the problems then recognized. That is not surprising because the military aspects of atomic energy have necessarily had priority during the hectic years since World War II, and the research achievements in that area

have been truly amazing. Power generation has been largely an incidental by-product of this great program. If anyone claims that the new Atomic Energy Act turns over to private industry a bonanza in the form of already solved technical and economic problems and an assured profit, either he does not know the facts or he is an arrant demagogue. Any private investment in commercial atomic power generation in the near future will have to be inspired more by public service motives than by any reasonable expectation of substantial profit.

## ***Development of Commercial Use of Atomic Energy***

In discussing the probable rate of development of the commercial use of atomic energy, commercial use, basically, is defined as production of power at costs, including depreciation, which are competitive with power from conventional fuels, and without direct or indirect subsidy from the government. This criterion is used because it is hard enough to appraise the complicated economic factors that will affect the outcome, without trying to take into account the unpredictable political and other factors that might lead to all sorts of open or concealed subsidies. Most of those, both in government and industry, who predict early commercial developments by private enterprise are assuming such subsidies. In some cases, especially in some of the underdeveloped, power-hungry countries of the world, subsidies may well be justified, but they nevertheless are subsidies.

Specifically, to qualify as unsubsidized, a commercial power development:

1. Should pay for its uranium (or other fissionable material) either by outright purchase or on a rental basis that fully covers at least the average going cost to the government. (The government now pays widely different prices to different producers, depending largely on their costs.)
2. Should get no government-guaranteed price for by-product plutonium. Although the government is now producing plutonium at high cost for weapons, the time is likely to come before long when the armed forces will have no real need for additional plutonium, at least beyond the production of the Atomic Energy Commission. The plutonium would, of course, have value for generating power, but to evaluate that fairly the plant should pay the cost of separating and recovering its by-product plutonium, and use it up in its own power-generating operations.

3. Should be set up on the basis of financing at commercial rates, paying the usual taxes and making a reasonable profit. Since capital costs and obsolescence will be substantially higher than for conventional power plants, these factors are highly important in determining whether or not a nuclear plant is competitive.

4. Should provide a plant location, safety devices, shielding equipment, and provisions for waste disposal substantially as safe as those of the existing atomic piles. While that factor of safety is costly, and may well be higher than needed, as a practical matter it will probably be many years before any political subdivision would feel that it could permit substantial relaxation of present precautions.

Defining commercial power production in this way, most experts will agree that:

1. There will be few, if any, atomic power plants built for purely commercial purposes in this country within 10 years. These would be only at points remote from conventional fuel supplies, and with high load factors. The Shippingport plant, near Pittsburgh, does not qualify under my definition of a commercial plant, since the government is justifiably paying well over half of the total cost.

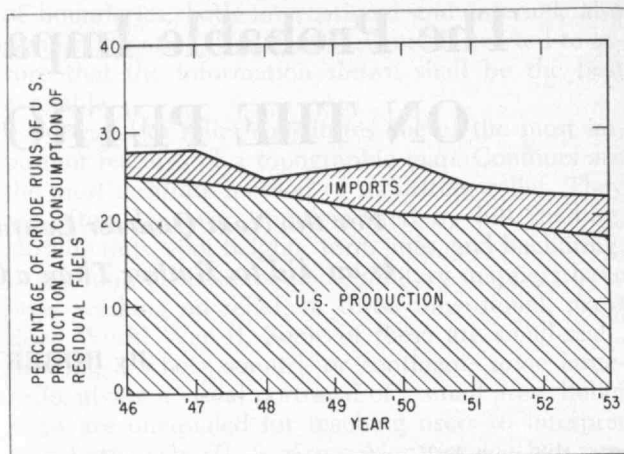
2. Between 10 and 25 years from now (depending partly on technological developments and partly on the trend of prices of competitive fuels), a moderate proportion of the larger commercial power plants built might be built to utilize atomic fuel. No existing plant of reasonable efficiency would be shut down or converted to atomic fuel. As was pointed out by C. C. Wheelchel, of Pacific Gas and Electric, during last year's Conference, "... looking to the future, we do not expect nuclear power to supplant power generated by hydro and conventional steam stations. On the contrary, when and as nuclear power becomes economical, we believe it will fit into the nation's ever-growing integrated power systems without displacing then-existing generating facilities or preventing the construction in the future of hydro and conventional steam power plants."\*

### Competitive Prices

As to the above-mentioned factor of the price of competitive fuels, while it is both expected and hoped that the price of oil and natural gas will increase enough in the next 25 years to make atomic energy more competitive, the author believes the price of coal will be the principal determinant. If oil and gas do go up, undoubtedly John L. Lewis and his successors will combine with economics to make sure that coal does not lag far behind! As a matter of fact, there is a real world shortage of coal today outside of the United States.

If the foregoing is even close to a fair appraisal of the outlook for commercial atomic power, what impact would it have on our industry? To summarize the writer's opinion in a few words, it would seem that the impact on our industry will be negligible

\*Atomic Energy Conference of the National Industrial Conference Board.



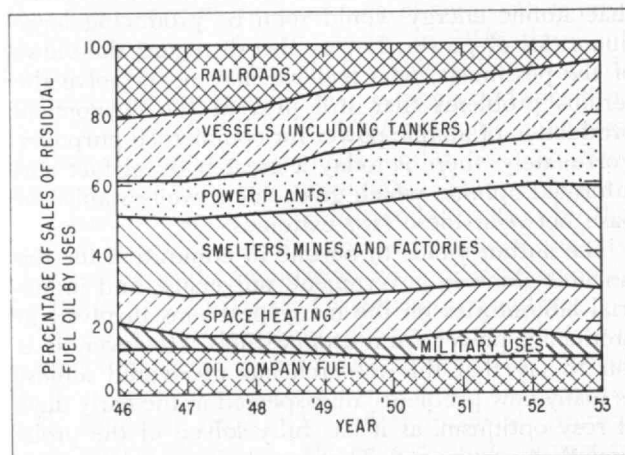
Source: U.S. Bureau of Mines

Fig. 1. Since the end of World War II, the consumption of heavy residual fuel oils in the United States has formed a relatively small part of total petroleum business.

over the next 20 or 25 years. Beyond that, we will welcome its aid in helping to take care of the country's rapidly growing needs for power.

To understand the reasons for this opinion, let us analyze more in detail how such power developments might affect our industry even if speeded up somewhat by subsidies. In the first place, heavy residual fuel oil would be almost the only oil product affected. Fig. 1 shows United States production and consumption of this product in the years since World War II. The difference, of course, represents imports.

As you can see, residual fuel is a relatively small part of our business. While the total volume has trended slowly upward, the percentage has become smaller and smaller. Over the past eight postwar years, our over-all consumption of heavy fuel has gone down from 28 per cent to 22 per cent of the volume of domestic refinery runs. Our production from domestic refinery runs has gone down from 25 per cent to 18 per cent. If the figures were in dollars, the percentage would be still lower. Residual fuel is our least profitable product—the only one selling for less than the cost of crude oil. As a result, we



Source: U.S. Bureau of Mines

Fig. 2. In recent years, of total sales of residual fuel oil, only a small fraction (one-tenth to one-seventh) is used for the generation of electricity in power plants.



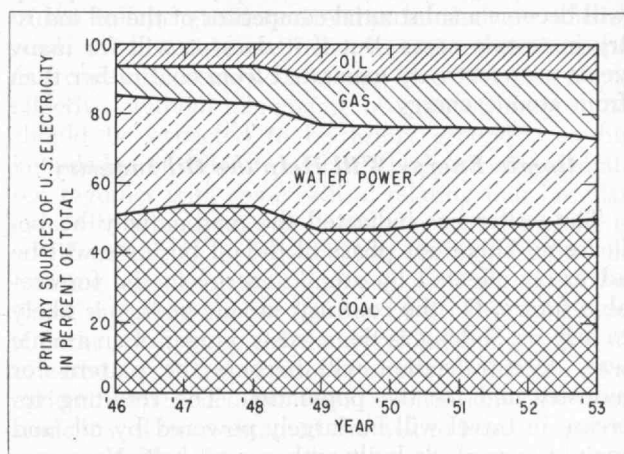
have been steadily reducing our yields and converting more of our residuals into products which are more valuable.

Moreover, only a small part of our residual fuel is used to generate electricity. As you see from Fig. 2, electric power plants take only 10 to 15 per cent of these fuels.

In fact, the total amount of residual fuel used for power generation in the United States in 1953 represented only 3.3 per cent of the total volume of crude run, and here again the percentage would be even smaller if expressed in dollars.

So, even if we lost our central power-plant business entirely during the next 25 years, we would hardly notice it; in fact, we might well lose it to coal long before that, and no tears would be shed. Certainly long before we seriously consider making motor fuel from coal we will be burning more coal in power plants and converting the residual fuel into gasoline, at much lower cost than we can make it from coal.

While a small proportion of our lighter distillate fuels is also used to make power, this is only in very small plants where atomic power would hardly be



Source: Federal Power Commission

Fig. 3. For its production of power, the electrical industry depends on oil, least of all, for its primary sources of energy.

considered. An exception might be in remote locations where transportation costs may be several times as large as the basic cost of the fuel.

Natural gas, also, is used to make electricity. Fig. 3 shows the over-all situation as to how the nation's power is generated. Note that in this area coal has held its percentage since World War II, and has, of course, gained greatly in total volume.

While the use of natural gas for power generation has been increasing, it now accounts for only about 18 per cent of the country's total fuel for electric power. Outside of the gas-producing areas it is used today largely because it is available as "dump" gas at low prices during the warmer seasons when the big gas pipe lines from the producing areas would otherwise be operating far below capacity. The availability of dump gas at such low prices will tend to decrease as the older supply contracts expire and more underground storage for gas is put into service near consuming centers. These facilities will make it possible to keep the long pipe lines running nearly

full the year round, but storing the excess during the summer in order to have it available for household consumption at higher prices. The use of natural gas for making electricity can be expected to decrease whether or not atomic energy begins to compete, and again no tears will be shed by the gas producer over losing this very low-priced market.

What about fuel oil for ships, which today take about 20 per cent of our residual fuel oil? While some submarines and possibly other special naval vessels will be atomic powered for war service, probably the comparatively high first cost of atomic power plants of moderate size, and the hazards involved will make their use on commercial ships develop even more slowly than in large central power plants. But again, if we should lose the fuel oil business of some of the larger new ships after 20 years or so—what of it?

How about atomic fuel for locomotives, or for cars, buses, and trucks? The only use in land transportation, which has been discussed as even a remote possibility, is in a large locomotive; but even if this should prove to be both safe and economical in normal service (which is doubtful), can you imagine either the railroads or the regulatory authorities being willing to risk a possible wreck of an atomic engine in one of our large cities? A theoretically safe "package" might be designed, but psychological factors would bar it for many, many years.

For cars, trucks, or buses the idea is fantastic. Even supposing people could afford the minimum conceivable cost of tens of thousands of dollars for an atomic engine, we would have to have at least a three-foot concrete dashboard to protect the passengers from dangerous radiations, and front fenders three feet thick to protect the passers-by. For commercial airplanes, too, the shielding problems seem to constitute an almost insuperable bar, though the greater distance of the pilot from the power plant would help to some extent.

In this connection, mention should probably be made of the paper presented by C. C. Furnas at the September, 1954, meeting of the American Chemical Society. Some of the editorial comments on his paper made Dr. Furnas sound quite optimistic about the possibility that lightweight shielding devices could be developed. Reference to the actual paper shows that while Dr. Furnas urged research along such lines, he was not optimistic and indicated that the physicists are quite pessimistic. It is fair to say that the problem of lightweight shielding against the gamma part of the radiation is in almost the same class as the problem of shielding against gravity. So far as impact on the oil industry is concerned, it is the project "least likely to succeed."

### Impact on Automobile Business

In discussing the impact of atomic energy on the automobile business, we can rule out engines using atomic fuel, but there are other possibilities we ought to consider. Might not cheap electricity from atomic power plants be used to charge some new kind of highly efficient storage batteries for electric automobiles?

In the first place, even if atomic power plants do become commercially competitive, there is very little likelihood that the power will be cheap by present standards; in the second place, further radical improvements in storage batteries do not appear to be in sight despite many years of research. Furthermore, even solving these problems would probably not affect the gasoline business very much.

Let us review some facts about automobiles. One important point is that gasoline is a relatively small part of the cost of driving a car. On the average, gasoline accounts for less than one-quarter of the total cost of the transportation. If we base our calculations on the price of gasoline (ex tax) at the refinery gate, we find that the fuel cost of the energy represents only about one-eighth of the total cost. Any competing source of mobile energy will have a hard time beating such figures. While the refinery price figure omits the relatively large factors of gasoline taxes and distribution costs, the latter would certainly not be less for storage battery charging and distribution, and you can be sure that the governmental bodies would not long neglect to tax the competition if it became important.

Incidentally, gasoline prices, ex taxes, are about the same as they were in 1926, whereas automobiles cost over twice as much. They are, to be sure, greatly improved, but so is modern gasoline, which, thanks largely to improved antiknock rating, will do 60 per cent more useful work per gallon in a modern high-compression engine.

Another important point is that the gasoline engine is a very low-cost engine. In a small car costing around \$2,000, the engine represents only \$300 of that total. The designer of a competitive type of engine or motor does not have a great deal of money to play with.

Most importantly of all, however, the buyer of gasoline is not looking primarily for cheap British thermal units. Instead, he demands in his car things like fast acceleration, agility in traffic, driving comfort, and the other qualities that come under the general heading of "performance."

The electric car lost out once in the competition with the gasoline car when gasoline engines were less efficient and power requirements lower. Atomic energy seems unlikely to put it back in the race.

There is, of course, the remote possibility of revolutionary new devices being discovered which would convert atomic energy directly to electricity, but this seems highly unlikely. At the second of these conferences\* held a year ago, Walter Zinn said he had seen no such scheme that seemed practical. Here again the low cost of the gasoline engine and the low cost of operating it seem practically certain to hold the business for the oil industry.

### **Space Heating**

After the various transportation uses, the next most important use of oil products is in space heating. Is there any chance that atomic energy will replace our distillate fuels, used mainly in home heating? In this

\*Atomic Energy Conference of the National Industrial Conference Board.

field, the customer comes much closer to shopping for mere B.T.U.'s than when he buys gasoline.

Atomic energy for such uses seems to be ruled out by its usual handicaps: the need for heavy shielding, the problem of handling radioactive wastes, and the high cost of the equipment. The high equipment cost is pointed up by the estimates made in connection with the Army Package Power Reactor, designed to generate 1,700 kilowatts. Lawrence R. Hafstad said the probable cost would be "considerably less than \$8,000,000," and there were some "guesstimates" as low as \$5,000,000. Even this figure, however, would be 10 times the cost of an equivalent Diesel unit. For generating electric power or for producing heat, atomic energy would seem to be attractive only in locations like northern Greenland, where Diesel fuel may cost \$1.00 a gallon instead of the normal \$0.12 or \$0.13.

In other remote locations, particularly where the climate is not too cold, electricity from atoms might prove economical for driving heat pumps. These are the devices that take low-level heat from outdoors and convert it to the higher-level heat needed indoors. It is possible that some day the heat pump will become a substantial competitor of the oil industry in certain areas. But if it does, it will for many years use electricity generated from coal rather than from atomic energy.

### **Atomic Energy Will Help the Oil Industry**

The writer has indicated the reasons why he believes no important phase of the oil business will be adversely affected by atomic energy in the foreseeable future. On the contrary, atomic energy is likely to help us. So long as there exists danger of an atomic war, decentralization will become the pattern for industry and for the population. The resulting increase in travel will be largely powered by oil, and mainly over roads built with our asphalt. New construction taking place in outlying districts will use oil-powered bulldozers and certain asphalt-based building materials.

The enormously greater power of atomic bombs will cut down bomber fuel requirements if we do have a war, but that would mean a welcome lessening of the oil industry's peak load in wartime, and would lessen the need for wartime rationing of our products—even assuming the next war lasted long enough to require it.

Turning to a radically different benefit, the oil business—like any others using science—will benefit from the radioisotopes used as tracers in many lines of research. Our products are more complicated than most chemical products and so we are in an unusually favorable position to use the information these tracers make possible. A paper at this conference last year described still another use of these tracers, in studies of wear in automotive engines. For some time we have been using radioactive devices for logging oil wells. Radioactive markers are used to indicate instantly the interface between different products being pumped through our product pipe lines; and the industry's active research laboratories  
(Concluded on page 162)

# Maturity through Student Counseling—I

## *Factors Affecting the Maturity of College Students*

### *Are Discussed as Precursor for Outline of a*

### *Counseling Program Established at M.I.T.*

By DANA L. FARNSWORTH

To those of us engaged in the profession of education it is profitable occasionally to sit back and look as objectively as possible at the basic goals toward which we strive. Quite specifically, what are we attempting to do with our college students? If the attainment of maturity is one of the goals, how can it be attained, and what is it, anyway?

Stated in the simplest terms, the chief expectations of the college graduate are that he shall be able to read, write, speak, and listen in order that there be free communication with others. Since thinking is not effective without command of subject matter, he should be expected to be firmly grounded in his knowledge of at least one large body of subject matter, together with some skill in relating that familiar area with other bodies of knowledge with which he is less familiar. In college he has the opportunity of forming a set of habits that will set the tone of his living and thinking for the rest of his life. Likewise, it is the ideal place for the development of interest, of enthusiasm, and of a sense of purpose. If the educational experience has been a wholesome one, the student will have obtained the will to learn, to serve, to exercise humility, and to try to understand.

However, there are many pitfalls in the way of becoming this mature person. Somehow the student must learn how to conduct himself in the midst of perplexity and uncertainty without feeling so insecure as to paralyze action. He must learn to disagree heartily with his neighbor without, on that account, losing respect for his opinion or integrity. He must learn how to deal with material things along purely scientific lines and at the same time develop skill in dealing with the abstract, the apparently irrational and the emotional. He needs to distinguish between sentiment and sentimentality.

All too often education has been thought of as the development of the power of rational thinking. This has resulted, as Dean Sperry of Harvard has said, in the unhappy fact that "in the modern world our specialized skills have outrun our total wisdom." Knowledge and intelligence in themselves have only an indirect relation to the moral conduct of an individual. It seems fairly obvious to many of us that our traditional concepts of education need a rather thorough overhauling in order that greater emphasis be placed on the attainment of total wisdom, although at the same time we cannot afford to relax standards of accomplishment that now prevail in specialized

fields. In fact they probably need to be increased, possibly with some change in emphasis.

While thinking about the ideal college graduate, it might be helpful to reflect briefly on some of the community influences that have been brought to bear on this student, together with a few of the basic, urgent problems that he faces as a citizen.

In the attempts to develop some sort of maturity in college a great many forces in our present society seem at times to act in the opposite direction. Among these are the tendency to extreme materialism, suspicion of all things intellectual, the presence of great numbers of purveyors of suspicion, hate and discord, the tendency of our chief agencies of communication to emphasize drama and excitement rather than some of the more sober virtues, and our inconsistent social and community customs.

In a thousand and one ways the young person is led to believe that it is the results that count, that success is equivalent to wealth, or that security is measured in terms of pension plans or money in the bank rather than in a strong and just society. Conspicuous consumption, to use Veblen's phrase, is honored all too often over inconspicuous service. Too many citizens say, "What is there in it for me?" rather than, "In what way might I help?"

Likewise the problem of "staying educated" is infinitely more difficult in some communities than in others. Pleasure in good conversation, toleration of dissenting opinion, high tastes in music, literature, art and the theatre, and similar qualities which many of us consider as the very essence of the good life are frowned upon in many communities with which the writer is familiar, and the persons who dare show their pleasure in them are criticized as being intellectual snobs, though the phrases used are usually a bit more expressive. In place of these activities first priority is given to bridge, talk about sports, and the less desirable aspects of politics, and criticism or resentment of those who try hard to raise community standards of taste.

Those who spread hate and discord are numerous indeed, and they are frequently not recognized because they operate under cloaks of eminent respectability. One has only to recall the professional patriots, the ministers who promote anti-Semitism and anti-negro sentiment, and the fanatics who operate in areas of public controversy, to recognize their potentialities for disturbing our peace of mind. Areas



which seem to attract fanatical thinking include antivivisection, fads in food, impassioned defenses of specific causes or cures of cancer, fluoridization of water (just as it used to be pasteurization of milk), schools of education, and recently in Brookline, Mass., at least, cursive versus manuscript writing. Mix these subjects with the current confusion about Communism and the results are indeed deplorable at times.

Last but not least, there is the influence of our chief agencies of communication — advertising, radio, television, and newspapers or magazines. Without these agencies our lives would be poor indeed, and with them our greatest benefits and pleasures are promoted. Yet common to all of them are certain tendencies of serious import so far as the emotions of all of us are concerned.

First there is the sheer number and force of impact of continued strong stimulation, repeated over and over with varying emphases. The actual facts of which we must know to be intelligent citizens are desperate enough. Add to this the appeal to pride, envy, and jealousy which is used by the skillful advertising agency to make us dissatisfied with our lot, the high tension of some radio announcers who seem compelled by some strong force to act and speak as if they were always in a continuous state of high excitement, the concept that it is all right to be rude to people by invading their privacy so long as it will make them remember a certain product, and the distortion of news to make it salable, and you have a total bulk of confusing, frustrating stimuli that does tremendous damage. Frequently public demands are exploited, rather than satisfied, as some recent writer has so well expressed it. These agencies have no permanent vested interest in mediocrity or worse that could not be replaced by a vested interest in something far better, if only we knew how to raise the tastes of the community generally. Sir Richard Livingstone has said that the way to make a person truly critical is to expose him to the first rate until the inferior ceases to attract. But how is the vicious cycle to be broken, if not by the daring and imagination of our policy makers in these fields?

Now if we add to these hindrances to consistent thinking those of giving untrue explanations of factual matters to keep children from asking so many questions, our total disregard of speed signs and regulations (and the excessively restrictive limits often posted by officials as a means of increasing their bargaining power), rationalizing the dishonest acts of politicians with whom we agree in many respects, the professionalization of athletics in high schools and colleges, and dozens of others which you can add from your own thinking, one might wonder how a young person could ever evolve a satisfactory code of ethics from the examples shown him. The idealized ethics, of which he gets fleeting glimpses on Sundays, have great difficulty when in conflict with actions the rest of the week.

In the college itself there are apt to be a number of customs, forces or tendencies which tend to detract from a proper emphasis on the intellectual properties for which a college exists. When fraternities are too strong, it is an easy matter for loyalties to them to be

greater than loyalty to the purposes of the institution itself. The attitudes of alumni are usually helpful but sometimes harmful. Their behavior when they return for alumni reunions does not always set the best possible example for students to emulate. Some customs of students, such as their demonstrations of school spirit, may at times get somewhat out of bounds. Hazing, especially when it pits one group against another, develops a kind of spirit and hostility which is later expressed as power struggles in larger situations, or even in war between nations. Systems of discipline and probation may appear to be exercised with a basically punitive philosophy, thus creating undue antagonism on the part of many students. Pressures for conformity in behavior and thought are often great. Some believe that these pressures are greater in small colleges while others have the opposite view. A large deviation from a supposed norm is usually tolerated more readily than a minor variation. Medical excuse systems, which seem so necessary to most schools that have a Medical Department, may, if abused, constitute direct vehicles for teaching students to exaggerate illnesses for the secondary gains they derive from them. Any school that subsidizes athletes or gives special favors surreptitiously to any group is giving excellent training for ward politicians later on. Anyone who studies college campuses soon finds that they have personalities as distinct as those of individuals. Whether the basic impact of this total college personality is of a nature that encourages the chief purposes for which the college exists, or serves to emphasize the secondary social and prestige values, depends to a very large extent on the philosophy of the college administration and alumni. All too often, the faculty is less influential in promoting lasting respect for intellectual activity than its central position would suggest.

In our society competitiveness has become so over-emphasized as to be almost an end in itself. Healthy competition is one thing, but a chronic attitude of competitiveness is quite different, at least in its effect. Instead of working at a high level, consistent with one's own abilities, a student feels impelled to lead his class for the sake of excelling others. The son feels unworthy unless he can make a better record than his father made. Thus we may have the illogical situation of a person doing good work but deprived of inner satisfaction from it because of current attitudes regarding competitiveness. Constant comparison with outside situations in which quantity is valued over quality leads to overemphasis on grades, too much time spent on too many extracurricular activities, as well as other practices which detract from proper emphasis on desirable intellectual activities. Some students tend to relate all their performances to those of others, never to their own previous accomplishments.

Perhaps it would now be helpful to look at some of the fundamental questions which the young student must consider and solve if he is to live the kind of life which he may enjoy and which his parents may contemplate with satisfaction. Among these are sheer survival, adjusting to a densely populated country, better methods of channeling hate and aggression into nondestructive channels, sup-

pression of unfair discrimination and prejudice, excessive nationalism, and lack of faith in anything.

We now live in a world in which the means of destruction have far outdistanced the means of self-control. Our society is so organized that it will spend billions of dollars for weapons of destruction but is much less likely to support efforts to develop self-control.

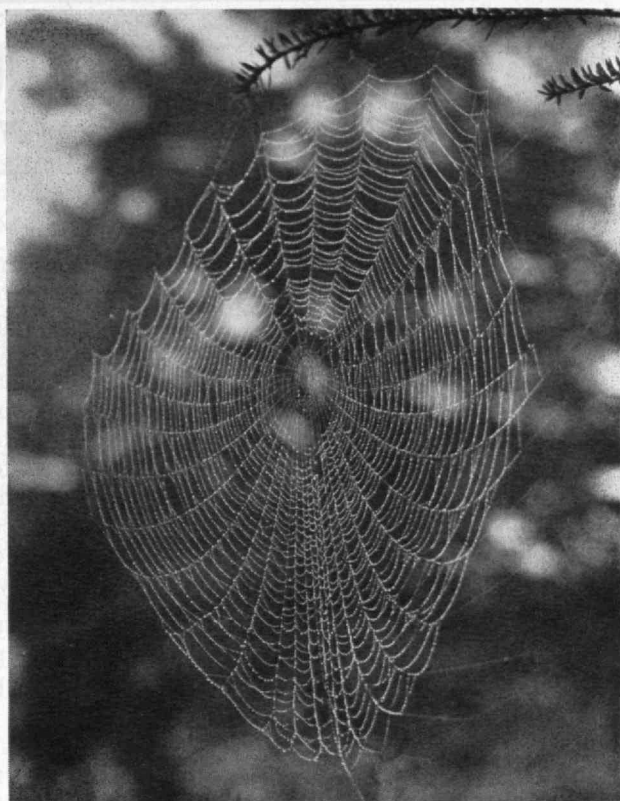
In the next generation our people must still further accommodate themselves to living in a densely populated country. Every morning in this country there are 7,000 more persons for breakfast than on the day previously. There is a birth every eight seconds, a death every 21 seconds. Two-thirds of our population live in urban areas.

Living in closely knit communities means that the methods of channeling hatred and aggression into forms that will not be destructive of society must be ever more effective. The causes of juvenile delinquency must be sought carefully and scientifically, and the solutions worked out in terms of social betterment rather than by more punishment and larger prisons. The portrayal of crime, brutal lust — and all such forms of unacceptable behavior — in comic books, on radio and television programs, and elsewhere, calls for action in terms of public opinion, rather than by censorship by individuals or groups incapable of such discrimination.

Discrimination and prejudice are forms of hostility which also cause us much trouble both at home and abroad. Fortunately, these two characteristics have to be taught, in contrast with hatred and aggression with which all of us seem to be equipped at birth. Unfair discrimination on the basis of personal characteristics beyond the control or influence of the individual is harmful, both to the one who practices it, and to the recipient. Those of us who have never been subjected to anything but relatively benign forms of discrimination have no real conception as to how severe the traumatic effect of being barred from hotels, clubs, certain neighborhoods, schools or churches may be.

Excessive nationalism is an age-old problem, chronic in Europe, now excessively prominent with us. One has only to read the letters-to-the-editor columns to feel how deep and violent are the undercurrents of hate and violence stirred up by misguided patriots. As Ralph Barton Perry has stated so effectively, "Patriotism is one of the loftiest and at the same time one of the most dangerous emotions of which mankind is capable. The accusation of disloyalty needs no other evidence than a hesitation to cheer or shout with the crowd, and needs no other penalty than to be labeled an outcast. As patriotism becomes protective coloration by which the individual's behavior in other respects escapes notice, so the dissenter, however slight his deviation, becomes a marked man from whom others withdraw themselves. Patriotism is converted into the persecution of those who are deemed nonpatriotic by the patriots. The more passionate the patriotism, the closer the scrutiny and the quicker the suspicion."<sup>1</sup>

1. Perry, Ralph B., *The Citizen Decides*, pages 14-17 (Bloomington: Indiana University Press, 1951).



Harold M. Lambert

The problem of a lack of faith or belief in anything is much more subtle than the preceding difficulties, and its solution will require the most thoughtful effort of which we are capable. By its very nature democracy is incompatible with fanaticism but it is virtually synonymous with a deep confidence in human beings, respect of decency and moral values, and the right to be free in thought and action, so long as these do not harm others. Here again we are right back with the necessity of learning how to live in a crowded world where no freedom can be achieved without assuming responsibility.

It is even more true now than it was in 1932 when Ortega y Gasset wrote that, "We live at a time when man believes himself fabulously capable of creation, but he does not know what to create. Lord of all things, he is not lord of himself. He feels lost amid his own abundance. With more means at his disposal, more knowledge, more technique than ever, it turns out that the world today goes the same way as the worst of worlds that have been; it simply drifts. Hence the strange combination of a sense of power and a sense of insecurity which has taken up its abode in the soul of modern man."<sup>2</sup>

From all this complex welter of opposing and interconnecting forces we hope that mature people will develop. The mature person is one who enjoys full and satisfying participation in all that life has to offer. He feels comfortable about himself and feels right about other people. He is able to meet the demands of life. He guides his emotional expression  
(Concluded on page 164)

2. Ortega y Gasset, José, *The Revolt of the Masses*, pages 31-32 (New York: W. W. Norton and Company, Inc. [Mentor Books], 1932).



# THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

## Surnames Familiar

**E**MERGING from the registration statistics of the freshman class, which enrolled at the Institute in the fall of 1954, are 27 surnames which ring familiarly because they appear on the roster of M.I.T. Alumni. Sons or daughters of Alumni, whose names appear in the following columns, became members of the largest (final count 995) freshman class ever to register at the Institute. A welcome is extended to this group of first-year students who, by enrollment at the Institute, and by repetition of parental choice of about a quarter of a century ago, have indicated their belief in an engineering training of high quality.

### Student

### Parent

William G. L. Bateman	Glen L. Bateman, '25
Walter R. Blake	Kenneth B. Blake, '13
James H. Brown	Harold J. Brown, '30
Patricia A. Clogher	Eaton J. Clogher, '18
Donald C. Dolben	Alfred H. Dolben, '26
Donald T. Greene	Charles R. Greene, '29
Carlyle L. Helber, Jr.	Carlyle L. Helber, '26
Malcolm K. Hubbard	Malcolm M. Hubbard, '29
Alan C. Hurkamp	Charles H. Hurkamp, '27
Helen A. Johnson	Algot J. Johnson, '21
Frederick W. Kressman, 3d	Frederick W. Kressman, Jr., '33
William N. Latham	Allen Latham, Jr., '30
Ralph E. Manchester, Jr.	Ralph E. Manchester, '29
Courtenay D. Marshall	Courtenay D. Marshall, '33
Calvin J. Morse	Winslow C. Morse, '22
Joanna M. Muckenhoupt	Carl F. Muckenhoupt, '29
Thomas H. O'Connor	Thomas H. O'Connor, '30
Eliot J. Pearlman	Samuel Pearlman, '27
Allen R. Philippe	Robert R. Philippe, '29
Robert A. Phinney	Robert M. Phinney, '04
John H. Ramsey	John P. Ramsey, '25
Joseph Ranger	Casper Ranger, 2d, '25
Neal H. Rosenthal	Barnet L. Rosenthal, '30
David L. Schweizer	F. David Schweizer, '31
Jonathan D. Senzer	Sidney Senzer, '21
Charles C. Vicary	James W. Vicary, '33
Richard H. Wick	Richard M. Wick, '25

## Shapiro, Associate Dean

**E**LI SHAPIRO, Professor of Finance since 1952, has been appointed associate dean of the Institute's School of Industrial Management, according to an announcement by James R. Killian, Jr., '26, President. Dr. Shapiro is widely known as a teacher and for research in such fields as corporate finance, consumer credit, and the interrelation of business financial policy and the general economy.

Professor Shapiro received the degree of bachelor of arts from Brooklyn College in 1936, and the degrees of master of arts and doctor of philosophy from Columbia University in 1937 and 1945. From 1936 to 1941 Dr. Shapiro was an instructor in economics at Brooklyn College. During this same period he also



M.I.T. Photo

Professor Eli Shapiro  
Associate Dean, M.I.T. School of  
Industrial Management

served as research associate, Financial Research Program of the National Bureau of Economic Research (1938-1939); consultant to the Financial Research Program of the National Bureau of Economic Research (1938-1942); economic analyst in the Division of Monetary Research of the Treasury Department (1941-1942); and economist for the research division of the Office of Price Administration (1941-1942).

On active duty with the United States Navy from July, 1942, until February, 1946, Dr. Shapiro received commendations for his work in scheduling tanker requirements for the Pacific Theater and for statistical studies for the Navy Manpower Survey.

Following his war service, Dr. Shapiro returned to Brooklyn College as assistant professor of economics. In 1946 he was appointed assistant professor of finance at the School of Business of the University of Chicago, where he was named associate professor of finance in 1948 and professor in 1952.

Dr. Shapiro has written extensively for professional periodicals on banking and finance, and his books include *Development of Wisconsin Credit Union Movement* and *Money and Banking*, which he wrote with W. H. Steiner.



## 1955 Midwinter Meeting

THE Midwinter Meeting for Technology Alumni in Metropolitan Boston will take place on Thursday, February 3, at Walker Memorial, according to Frederick B. Grant, '39, chairman of the Midwinter Meeting Committee.

Speaking for M.I.T. at this important annual event will be Julius A. Stratton, '23, Vice-president and Provost of the Institute. According to Mr. Grant, there will be a repetition of last year's successful pattern of talks on technology by three firms in Greater Boston who will take part in the program. Heading each of these firms, incidentally, is a Technology Alumnus. The concerns which will take part in the Midwinter Meeting are: Photon, Inc., engaged in photoelectric typesetting machines; High Voltage Engineering Corporation, producer of electrostatic generators of the Van de Graaff-type for commercial use; and Tracerlab, active in the development of detectors for radioactive materials.

## Council Opens New Season

THE 305th meeting of the Alumni Council — and the first for the 1954-1955 season — was held on Monday, October 25, with the Association's new President, Hugh S. Ferguson, '23, presiding. After the usual dinner at the Faculty Club, Mr. Ferguson opened the meeting, attended by 161 members, by introducing: C. Richard Soderberg, '20, Dean of the School of Engineering; H. E. Lobdell, '17, Executive Vice-president of the Association; Paul A. Heymans, '23, President of the M.I.T. Club of Belgium, Walter Heymans, his brother, and Jacques Heymans, his son; William H. McTigue, Jr., '54, Captain of last year's 150-pound crew; and Godfrey L. Cabot, '81.

As Secretary, Donald P. Severance, '38, reported that changes had been made in class affiliation for 13 Alumni, presented nominations for Departmental Visiting Committees of the Corporation, and asked for an affirmative vote for new representatives of local associations, as well as the Council membership.

It was reported that the M.I.T. Club of Spain, organized on August 27, 1954, in Madrid, has been recognized as the 92d local association. During the summer months, visits to M.I.T. clubs in Paris, Brussels, Barcelona, and Madrid were made by Mr. Lobdell; in addition, 11 M.I.T. clubs in the United States were visited by Hamilton Herman, '43, Harl P. Aldrich, Jr., '47, Horace S. Ford, Mr. Severance, Rolf Eliassen, '32 and Bruce F. Kingsbury, 2-44.

As Treasurer, Mr. Severance reported that Alumni Day, 1954, had been conducted with a net operating loss of \$4,640 compared to a loss of \$3,500 for Alumni Day, 1953. Total expenses of the Alumni Association for the fiscal year ending June 30, 1954, amounted to \$43,586 as against the budgeted figure of \$41,097. Despite continually increasing production costs, for more than 25 consecutive years, income for The Review exceeded expenses and this year's net gain was used to make up the Association's operating deficit of \$2,480 and to add \$4,740 to the 1955 Alumni Fund. The previously authorized temporary withdrawals from the Alumni Association Reserve Fund have been reduced by the amount of \$939, which represents net

income from the sale of M.I.T. chairs, records, and glassware.

As chairman of the Alumni Fund Board for the current year, Theodore T. Miller, '22, announced that the Board had agreed to devote the entire proceeds of the 1955 Alumni Fund toward a \$7,000,000 objective, which fund is to be used to build and endow the Karl Taylor Compton Laboratories, including a nuclear reactor. While the Alumni Fund Board has promised no minimum amount as its share toward this memorial, the Board has set for itself the goal of doubling the normal number of contributors and increasing by 50 per cent average alumni contributions.

James B. McMillin, '43, head crew coach, was then called upon to introduce Jack H. Frailey, 10-44, coach of the 150-pound championship crew which won the Thames Challenge Cup at the Royal Henley Regatta last July, as already recorded in the July and November issues of The Review. Mr. Frailey told of the experiences which the Technology team encountered in training, on their trip to England, and during the Regatta, and emphasized his remarks by showing a 15-minute color motion picture film of several of the Henley races.

Final speaker of the evening was Julius A. Stratton, '23, Provost, who spoke on trends having a bearing on the future composition of the Association. A fairly extensive summary of Dr. Stratton's remarks appeared on page 80 of the December, 1954, issue of The Review and, accordingly, will not be abstracted here.

## Corrective Formulas

THE Visiting Committee on the Department of Chemistry\* held an all-day meeting in the Moore Room at the Institute on February 28, 1954. The report of the Visiting Committee, reviewed at the June 11, 1954, meeting of the M.I.T. Corporation and the September 17, 1954, meeting of the Executive Committee, was released for publication in The Review on September 29. A summary is presented in the following paragraphs.

At the morning session about 20 representatives of the Department were present and, after introductory remarks by Arthur C. Cope, in charge of the Department, six instructors in chemistry, all of them in their first year at the Institute, made brief presentations of their teaching and research programs. The Committee found all of these reports interesting and stimulating, and were happy to find so much enthusiasm and ability in the younger members of the Department.

In the discussion following the presentations, it developed that the six young instructors were spending about half their time teaching, and the remaining half pursuing their own research interests, which seemed to the Visiting Committee, as it did to the young men themselves, a proper distribution of effort.

The Committee then heard a report from Clark C. Stephenson, Associate Professor of Chemistry, relating to the effect on the first-year chemistry curriculum of a reduction in contact hours from seven to six.

\*Members of this Committee for 1953-1954 were: Crawford H. Greenewalt, '22, chairman, Pierre F. Lavedan, '20, Edwin D. Ryer, '20, John M. Gaines, '26, John G. Kirkwood, '29, M. Gilbert Burford, William M. Holaway, and Paul L. Salzberg.

The Visiting Committee was sympathetic with the desire of the faculty so to arrange the freshman curriculum to allow students more free time. The Department of Chemistry has surveyed the situation in other colleges and universities and reported that seven hours is no more than average for first-year chemistry courses, and six would be well below par.

However, the Committee was unanimously of the opinion that the curriculum used in past years, embracing two hours of lecture, two hours of recitation, and three hours of laboratory, was at a practical minimum for proper instruction, at M.I.T. standards.

The afternoon was devoted to a general discussion of the problems of the Department. There was also some discussion of ways and means of making chemistry more attractive as a vocation, and it was the feeling of the Visiting Committee that much could be done in this direction. Aside from any action which might be taken at the Institute in connection with its own chemistry curriculum, the Committee felt that much of the burden must ultimately rest on the teaching of science in secondary schools, a problem which the Institute recognizes and is studying actively.

Finally, the Committee approved for the Department of Chemistry, the Institute's present policy of private consulting, in the belief that acceptance by professors and instructors of outside consulting adds both vitality and understanding to their work.

### ***New Course in Shipping***

THE first students have registered this fall for a new five-year program at the Institute which prepares for careers in management for the shipping and shipbuilding industry. Five years of study in the Department of Naval Architecture and Marine Engineering will lead, under the new course, to two degrees awarded simultaneously: the bachelor of science in Naval Architecture and Marine Engineering and a new master's degree, the master of science in shipping and shipbuilding management.

The new course in shipping and shipbuilding management and the new master's degree, to which it leads, were approved by the M.I.T. Faculty last spring; the new degree is expected to be awarded for the first time in the commencement exercises of June, 1955, according to Professor Laurens Troost, Head of the Department.

"The primary objective of the new curriculum," explained Professor Troost, "is to provide effective academic preparation for careers as members of technical, supervisory and management groups in marine transportation, shipbuilding, and supporting technical activities. The new course provides significant competence in the areas of management, administration, and economics in addition to technical competence in naval architecture and marine engineering."

Students in the fourth and fifth years of the new curriculum in shipping and shipbuilding management study extensively in M.I.T.'s School of Industrial Management and in the Department of Economics and Social Science. Requirements for the final year include a thesis in a subject which integrates the shipping or shipbuilding field with economics or management.

### ***Civil Engineering Survey***

THE Visiting Committee on the Department of Civil and Sanitary engineering\* held well-attended meetings at the Institute on March 1 and 2, 1954. A report of the meetings was released for publication in The Review on September 29, and a condensation is presented in the following paragraphs.

On the morning of March 1, the Committee was joined by Edward L. Cochrane, '20, Dean of the School of Engineering [now Vice-president for Industrial and Governmental Relations], in conferring with Professor John B. Wilbur, '26, in charge of the Department, on departmental matters. Following this conference a Corporation seminar was attended, at which Dean Cochrane, with the assistance of a number of younger professors in the School of Engineering, discussed several phases of engineering that are so broad in scope that they cut across departmental boundaries. In the afternoon the laboratories of the Department were visited. On March 2, the Committee conferred with the various divisions of the Department. James R. Killian, Jr., '26, President, Julius A. Stratton, '23, Provost, and Walter H. Gale, '29, Secretary of the Institute, then joined the Committee and the academic staff of the Department at a luncheon in the Faculty Club, and then the Committee held a brief final session there.

Last year's recommendation of this Committee that the summer surveying camp at East Machias be discontinued having been approved by the Corporation, the Department now faces certain problems that arise because required work in surveying will henceforth be taught in Greater Boston during the regular school year. Briefly, these problems are threefold: (1) the need of sufficient man power to teach surveying field work; (2) the determination of the amount of time to be devoted to surveying in the new curriculum; and (3) the content of the revised subjects that are to be offered. With respect to man power, the need of increasing the staff somewhat in the Division of Transportation and Surveying should be recognized. The proposal to devote 24 units of work to surveying in the new Civil Engineering curriculum appears to be reasonable. It is believed, however, that the reduction of time spent on surveying to eight units in the new curriculum in Building Engineering and Construction cuts too deeply into the time available for this subject.

The content of the three revised surveying subjects for Civil Engineering, as tentatively outlined by Herman J. Shea, '33, Associate Professor of Surveying, appears to be excellent, and in keeping with this Committee's previous recommendation that these subjects should be designed to emphasize the fundamentals of the broad field of civil engineering measurements. It is to be regretted that thus far the new curriculum in Building Engineering and Construction includes only the first of these three subjects; the inclusion of a second term of surveying seems highly desirable.

The studies recently conducted by the Department to avoid duplication of substantially equivalent sub-

\*Members of this Committee for 1953-1954 were: Thomas C. Desmond, '09, chairman, William J. Orchard, '11, Eugene L. MacDonald, '13, Howard H. McClintic, Jr., '19, Alfred T. Glassett, '20, John M. Kyle, George R. Rich, and Henry R. Shepley.



jects in the curriculums for Civil Engineering and for Building Engineering and Construction are to be commended. So far, this effort has been directed toward undergraduate subjects; it is understood that the study will be extended to include graduate subjects, and this might well be done.

This Committee believes, however, that such studies, though desirable, should actually be only preliminary moves toward a more complete consolidation of Civil Engineering and Building Engineering and Construction. Questions may well be raised as to whether the considerable duplication between these two courses does not arise primarily because Building Engineering and Construction is actually a part of Civil Engineering, and whether the degree of specialization involved in a separate curriculum dealing with buildings only, does not violate the goal of breadth through fundamentals that should typify the education of professional engineers.

Last year this Committee stressed the importance of soil mechanics to the civil engineering program, and pointed out that it would be desirable to expand the graduate program in this area so that a graduate student could elect a year's program of studies centered on soil mechanics and its related subjects. The Committee is pleased to learn of the progress that has been made in this direction during the past year by Donald W. Taylor, '34, Associate Professor of Soil Mechanics, and his associates, and to find that such a program will be offered in the fall of 1954.

For the past several years this Committee has recommended that substantial special appropriations be made to complete the basic equipment for instruction and research in the new Hydrodynamics Laboratory. While these recommendations have been received sympathetically, it has not as yet been possible to supply all the funds that are required to satisfy the minimum basic needs of the laboratory as outlined by Professor Arthur T. Ippen.

The Committee is impressed by both the quality and scope of the creative work of this Department, as typified in particular by its active and diversified research programs, and sincerely hopes that these activities will continue to flourish and not become curtailed because of any diminution of financial support from governmental and industrial sponsors. The results of these programs of research, as, for example, the contributions of the Structural Division of our country's ability to design and build structures capable of resisting atomic bombs, or the knowledge regarding the treatment of radioactive wastes that is being developed by the Sanitary Division, may well prove to be among the important civil engineering contributions of our time.

### **Physics Scholarship**

A SCHOLARSHIP fund of \$5,000, the income of which is to be available to an undergraduate in the Department of Physics, has been established at M.I.T. in memory of Irving Shaknov, '43, who was killed in action on May 14, 1952, while serving in Korea for the Operations Evaluation Group, which M.I.T. operates for the U.S. Navy. The first award of these memorial funds will be made during 1955, according to Thomas

P. Pitré, Director of Student Aid at M.I.T., who announced the scholarship.

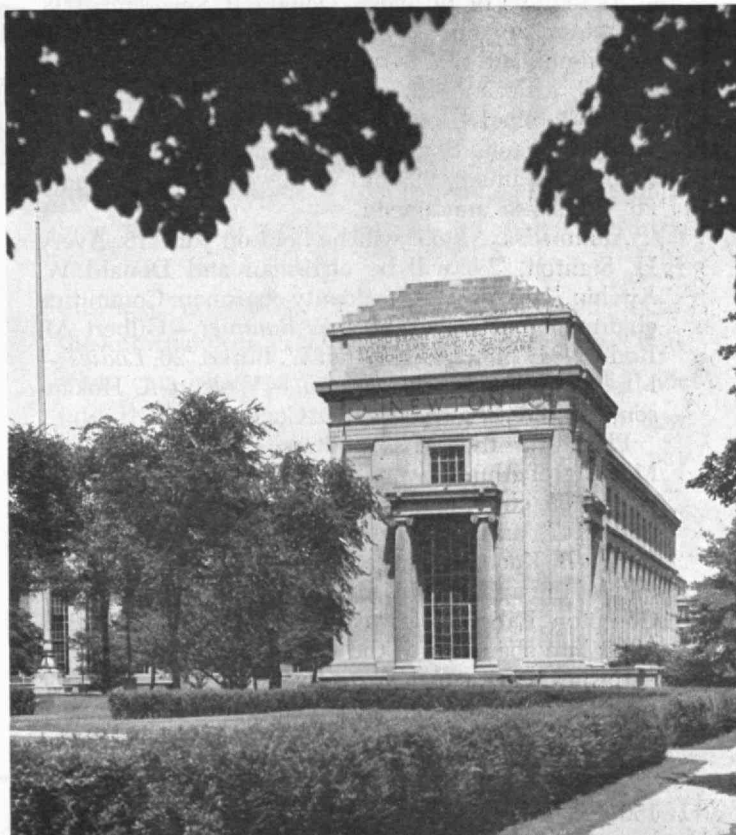
Dr. Shaknov was the son of Mr. and Mrs. William M. Shaknov of Dorchester; Mr. Shaknov is a member of the technical staff at M.I.T.'s Division of Defense Laboratories.

At a recent ceremony at the headquarters of the Operations Evaluation Group in Washington, Rear Admiral Walter G. Schindler, Assistant Chief of Naval Operations, reported that Dr. Shaknov was killed "when the plane in which he was riding to obtain information on interdiction operations crashed behind the Communist lines in Korea."

Earlier, it was pointed out, the Shaknov family, although informed that Dr. Shaknov was missing in action, were not allowed to divulge that fact to even close friends and relatives. "They were compelled," said Jacinto Steinhardt, Director of the Operations Evaluation Group, "to make others believe that they were in close touch with Dr. Shaknov at all times, a thing which imposed much suffering and heartache on the family. This secrecy was necessary," Dr. Steinhardt explained, "because if Dr. Shaknov's status with O.E.G. were revealed even indirectly to the enemy — and if he were being held by the Communists as a prisoner of war — he would have been subject to interrogation."

Dr. Shaknov was posthumously awarded the Medal of Freedom by the Secretary of the Navy on May 7, 1954. During World War II, while serving as an officer in the Army, he was awarded the Bronze Star Medal for heroic action in saving the life of a fellow officer.

At the ceremony in Washington, the Operations Evaluation Group unveiled a portrait of Dr. Shaknov by Jeff T. Boswell which now hangs in O.E.G. headquarters in the Pentagon. M.I.T. was represented at the services by F. Leroy Foster, '25, Associate Director of the Division of Industrial Cooperation.





## Ernest F. Langley: 1874-1954

ERNEST F. LANGLEY, Professor of French, Emeritus, who headed the Department of Modern Languages for 14 years until his retirement in 1944, died in St. Louis on September 22, 1954. He was 80 years old.

Widely honored as a student of Romance languages, Professor Langley received the degree of bachelor of arts in his native Toronto, and the degrees of master of arts and doctor of philosophy at Harvard University. His career as an educator was supplemented by extensive graduate study at European universities, and he became a naturalized American citizen in 1920.

Professor Langley's first teaching appointment was at Dartmouth College, where he served as instructor in French and assistant professor of Romance languages for eight years. In 1910 he joined the M.I.T. Faculty as professor of French, and until 1926 had charge of instruction in Romance languages. The Department of Romance Languages, renamed Department of Modern Languages in 1930, was headed by Professor Langley from 1926 until his retirement. He remained at the Institute until 1945 as lecturer in the Department.

## November Council Meeting

IN the nonbusiness portion of the 306th meeting of the Alumni Council on November 29, 1954, Jerome C. Hunsaker, '12, Professor of Aeronautical Engineering, Emeritus, discussed "American Use of the Air" and Professor Douglas M. McGregor spoke on "Current Changes in Management Philosophy." Hugh S. Ferguson, '23, President of the Association, presided at the dinner meeting at the Faculty Club at which 175 members and guests were present.

As matters of business, Donald P. Severance, '38, Secretary, announced changes in class affiliation for 10 Alumni, and that between October 14 and November 19, a dozen M.I.T. clubs from Albuquerque to Worcester had been visited by 12 members of the Institute's staff. Regional conferences to be held in Dallas on January 29, and in Cleveland on February 26 were also announced.

Alumni Day, 1955, will be held on June 13. Avery H. Stanton, '25, will be chairman and Donald W. Kitchin, '19, will serve as deputy chairman. Committee chairmen for this event are: *Banquet* — Gilbert M. Roddy, '31; *Luncheon* — Alan W. Burke, '20; *Ladies* — Mrs. E. P. Brooks; *Registration* — Wolcott A. Hokanson; *Conference* — Edward L. Cochrane, '20.

Plans for the Metropolitan Boston Midwinter Meeting of Alumni were announced by Frederick B. Grant, '39, chairman, as given in a separate article on page 147, and, as Director of the Alumni Fund, Henry B. Kane, '24, urged all Alumni to take advantage of the opportunity to help build the Karl Taylor Compton Laboratories as a memorial to the Institute's late chairman of the Corporation.

In speaking on "American Use of the Air" Professor Hunsaker took opportunity to comment on the many contributions to aviation made by Technology graduates. Among the M.I.T. Alumni who took part in

pioneering developments were: the late Virginius E. Clark, '15, who developed the curved thin wing into the thick, structurally sound, wing section we now know; Holden C. Richardson, '06, recognized for his early work on hydroplanes and flying boats; Godfrey L. Cabot, '81, who conducted early tests with the hydroplane and taught himself to fly at a time when he was then 20 years overage; George C. Westervelt, '06, who was instrumental in starting the Boeing Aircraft Company; and Frank W. Caldwell, '12, who invented the variable pitch propeller.

World War I developed the airplane into a useful vehicle. Alumni active during that period included: Luis de Florez, '11, who pioneered in aircraft instrumentation; and Paul W. Litchfield, '96, who contributed to improving the airship art, and built the *Akron* and *Macon*.

After World War I, the airplane was further developed for mail, passenger service, and other civilian uses. Alumni who made major contributions during this period include: Donald W. Douglas, '14, who developed the torpedo airplane into the DC-3 — the first airplane that made money as a civil carrier; Arthur E. Raymond, '21, Vice-president in charge of engineering with the Douglas Aircraft Company; the late George J. Mead, '16, who developed the Pratt and Whitney engine; John W. Crowley, Jr., '20, who played a particularly prominent part in wind-tunnel research with the National Advisory Committee for Aeronautics; James H. Doolittle, '24, the first to conduct blind flying experiments; and Theodore P. Wright, '18, who was awarded the Guggenheim Award for Safe Aircraft Competition.

Today, world-wide transport services facilitate international trade, cultural exchange, and provide opportunity for statesmen to meet face to face. Again M.I.T. Alumni are playing prominent roles in aviation, such as: Edward P. Warner, '17, (formerly on the M.I.T. Faculty), who, as President of the Council, International Civil Aviation Organization, arbitrates the problems for international air lines; Emory S. Land, '07, who is consultant and director, General Dynamic Corporation; and Clarence D. Howe, '07, Minister of Trade and Commerce, who established the Canadian National Airlines.

In discussing "Current Changes in Management Philosophy, Professor McGregor particularly emphasized three points of current concern to management. There is a growing recognition that labor and management are mutually dependent upon one another for the successful operation of any business, and that a genuinely co-operative attitude on the part of both groups results in greatest benefits for all. Likewise there is growing recognition that management must be alert and willing to remove injustices to which employees at all levels may be subjected, and must take the lead in removing discriminations against individuals for reasons beyond the control of the individual. Finally, it is being recognized that a certain degree of dissatisfaction tends to foster initiative which can be turned to benefit, especially under the stimulation of proper incentives. Attempts at removal of all sources of dissatisfaction may result in paternalism and diminution of initiative.

(Continued on page 152)

# BUSINESS IN MOTION

## *To our Colleagues in American Business ...*

There is an interesting story behind the brass forging shown here. It is part of a high-pressure lubricator. Originally a casting was used, but this proved to be more expensive than expected, due to blow holes, sand inclusions and the like; there were too many leakers, too many rejects. It then was decided to assemble the part out of four different brass items. The bottom was a forging, the top was machined out of round brass rod, and the two side supports were rectangular brass rod. To assemble, the four parts had to be accurately aligned, and silver soldered together. The result was an improvement, but costs were still too high, due to the time-consuming assembly process, and the expensive silver solder.

It was then suggested that the entire part perhaps could be made as a one-piece forging. Could Revere do it? We thought we could, and our forging people sat down with the lubricator manufacturer, studying blueprints and specifications. When both parties thoroughly understood both the possibilities and the limitations a bid was made, and accepted. Introduction of the forging on a production basis showed sizable economies. Machining is done more quickly, output is increased, rejects have decreased to practically zero. In addition, the part is better in every way.

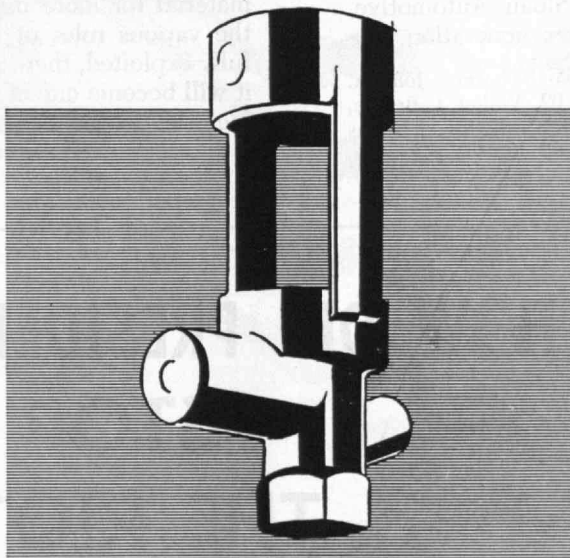
The forging process is an excellent one, and has wider applications than many people realize. As in the case

reported here, rather intricate shapes can be forged, shapes that many people would consider would have to be built up of several parts. The Revere files contain many similar examples of parts formerly expensively put together but now delivered to the customer in a one-piece forging, with resultant economies.

Revere produces forgings in copper, brass and other copper-base alloys, and in aluminum alloys. Many forgings begin as extruded shapes which have the correct form to fit the forging dies with a minimum of

"flash." When the dies close on the hot metal, design details, including names and numbers, are accurately reproduced. The metal is dense, being twice wrought, and has a typical smooth forged finish. Customers find that a Revere forging usually is ready for assembly after a minimum of simple machining operations, such as drilling and tapping a hole or two.

The point about this story is that Revere, as a supplier, was able to collaborate with a customer, and show how to use a special process to make an intricate part better and at less cost. Perhaps your business, no matter what it is, could benefit by the knowledge and skill of your suppliers. They know what can be done with their materials. Why not take them into your confidence, and ask them how you can save money? It might very well pay you handsomely.



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## Summary on Mechanical Engineering

THE Visiting Committee on the Mechanical Engineering Department\* met on November 20, 1953, with three principal projects on its agenda: (1) The revitalization of the Mechanical Engineering Laboratory; (2) A review of the graduate and undergraduate curricula of the Department; and (3) Plans for the completion of the Edward F. Miller Room.

The report of the Visiting Committee, reviewed at the March 1, 1954, meeting of the M.I.T. Corporation and the June 4 meeting of the Executive Committee, was received for publication in The Review on September 29.

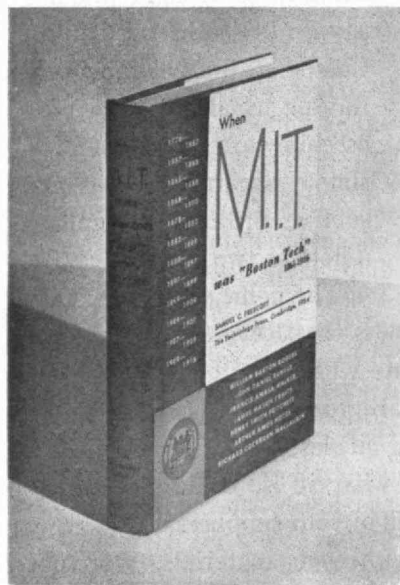
Plans to revitalize the Mechanical Engineering Laboratory stem from educational demands which today are very different from those in 1917 when the laboratory was an outstanding feature of the new Institute plant. Many of the original functions are now performed by specific professional laboratories—Gas Turbine, Hydrodynamic, Sloan Automotive, and others. In the field of power generation, the

\*Members of this Committee for 1953-1954 were: John A. Lunn, '17, chairman, Redfield Proctor, '02, Walter J. Beadle, '17, Charles A. Chayne, '19, H. W. McCurdy, '22, Thomas H. West, '22, John F. Bennett, '30, and Ronald B. Smith.

equipment which once typified contemporary practice is now obsolete and, although there has been some replacement with current items, the acquisition and utilization for teaching purposes of full scale, modern, prime movers is today out of the question at the Institute.

The educational role of the laboratory in the new curriculum has also changed significantly. The scope of the laboratory program is gradually being extended to cover the whole of mechanical engineering rather than being limited to the field of power. To an increasing extent, laboratory instruction is being presented through authentic projects from industry. The objective of the new laboratory is not only to give the students a vision of the past, present, and future in the field of mechanical engineering, but also to expose them to the stimulating influence of participation in creative efforts. Experience of the Department over the last few years indicates that it is possible to organize projects of sufficient scope to insure some measure of achievement on the part of the students during a term. The students develop an intensive interest in the project itself; this interest gives meaning to their efforts in fundamental studies, and eventually their experience provides interesting material for more meaningful report writing. When the various roles of the new laboratory have been fully exploited, there is firm evidence to indicate that it will become one of the most important educational facilities in the Department.

(Continued on page 154)



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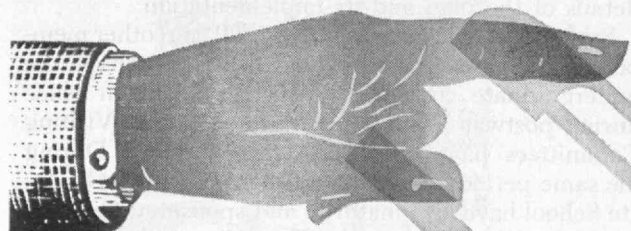
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## THE INSTITUTE GAZETTE

(Continued from page 152)

A detailed plan for the physical renovation of the laboratory was presented and discussed. The outstanding feature of the proposal is a dynamic power museum, integrated with equipment and space for formal laboratory instruction, as well as facilities for engineering research. The total cost of the project is estimated at \$130,000, which would be spread over several years, with an initial outlay estimated at \$75,000 which would be needed during the first year. The largest items of initial expenditure are for a new lecture room and related classrooms which would cost approximately \$50,000.

The Committee unanimously endorsed the plan for revitalizing the Mechanical Engineering Laboratory and urged that the project be undertaken as soon as agreement could be reached between the Department and the Administration as to the specific details of the plan and its implementation.

Professor C. Richard Soderberg, '20, and other members of the Department reviewed the revisions in the undergraduate curriculum which have taken place during postwar years, and in which recent Visiting Committees have taken an active interest. During the same period, educational programs in the Graduate School have also matured and sponsored research has shown further growth. The Committee was en-

(Continued on page 156)

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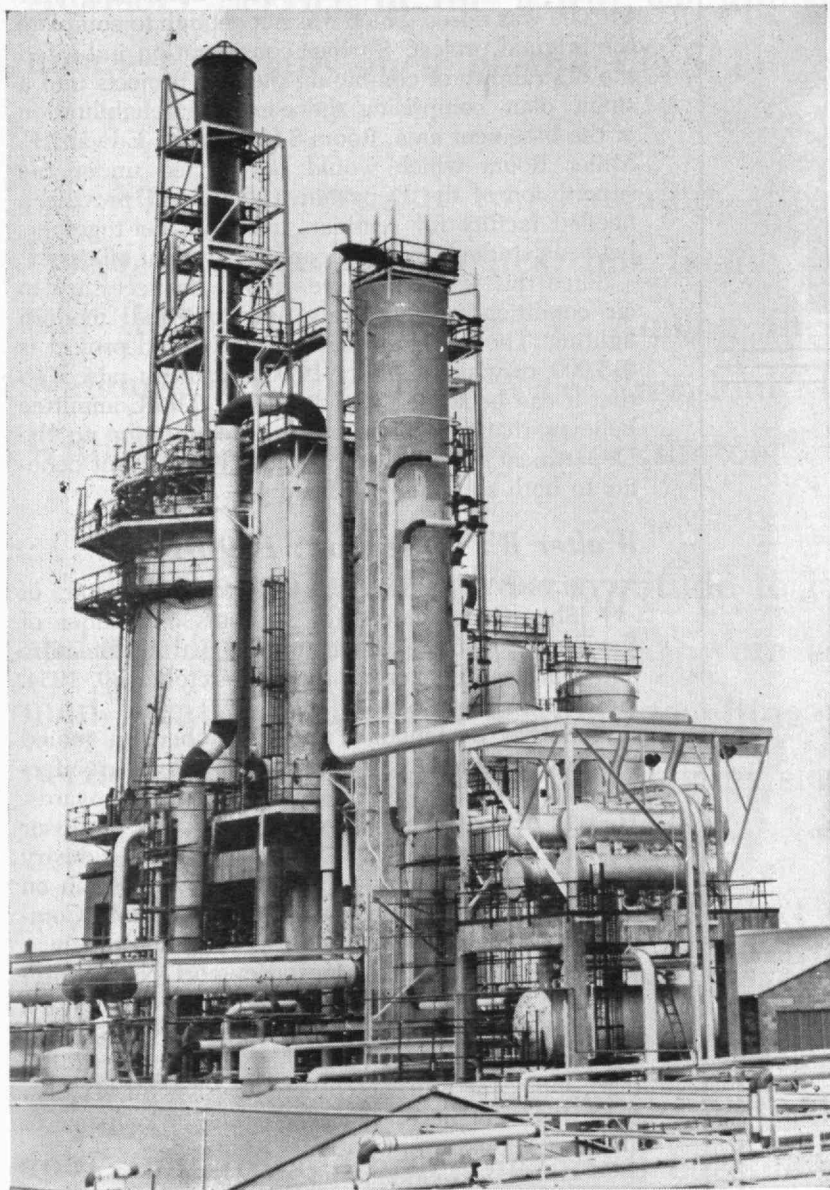
*These principles combined with years of tireless work, avoiding worry and resentment, and upholding honesty and integrity, will earn the satisfaction and reward of achievement.*

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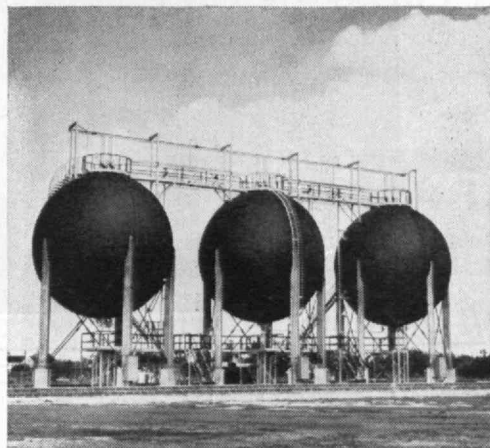
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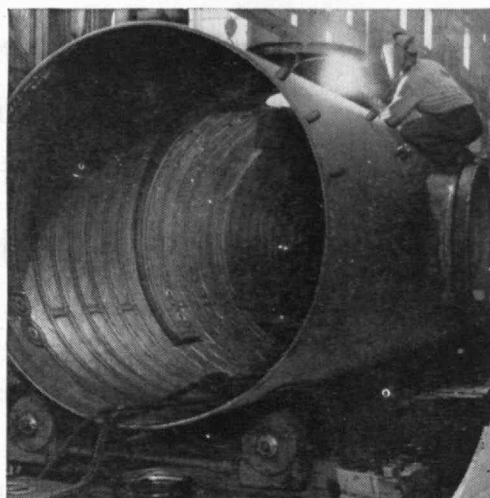
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## THE INSTITUTE GAZETTE

(Continued from page 154)

thusiasm about the accomplishments in these areas and hoped that progress would continue.

The 1952-1953 Visiting Committee sponsored an appeal to Course II Alumni for a fund of \$30,000 to underwrite an Edward F. Miller Room in the Mechanical Engineering Headquarters and a Student Commons Room in the basement. Something over \$10,000 was raised which was not enough to complete the original project. Further consideration indicated the desirability of combining the two projects into a single plan, comprising the complete rehabilitation of the basement area, Room 3-070, as the Edward F. Miller Room which would be utilized under the supervision of the Department. This will provide a needed facility for seminars, informal get-togethers between students and staff, and for student affairs.

Since this is inside space, it will be necessary to air condition it completely and to install modern lighting. The estimated cost of the revised project is \$15,000, of which almost \$14,000 has been raised, so that it can be started without delay. The Committee believes that it will be a valuable addition to the Department's facilities and will offer significant benefits to both students and faculty.

### Walter W. Robertson: 1890-1954

WALTER W. ROBERTSON, Assistant Professor of Ship Construction, for 15 years a member of the Faculty of the Department of Naval Architecture and Marine Engineering, died on October 30, 1954. He was 64 years old.

A native Bostonian, Professor Robertson joined the Institute Faculty as instructor in naval architecture after 24 years' experience in American shipyards. He was promoted to the grade of assistant professor in the Department in 1945. His service in industry and government included positions as draftsman on submarine construction with the Electric Boat Company in New London, Conn.; as leading draftsman in charge of Warship Lines, Newport News Shipbuilding and Dry Dock Company in Newport News, Va.; assistant naval architect with the U. S. Navy Yard in Brooklyn, N. Y.; and chief engineering draftsman, Office of Superintending Constructor, U.S.N., Fore River Plant of Bethlehem Steel Company in Quincy, Mass.

(Continued on page 158)

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Not only were our two Founders—Roger W. Babson and Leroy D. Peavy, both Tech graduates; but today, several other of our key men had their training at M.I.T. Among these we mention Charles W. Wallour, our Executive Vice President, E. L. Quirin, Harry Olson, William Esson and Harry Brockington.

We especially extend our gratitude to Professor Charles M. Spofford and the late Professors George F. Swain and Alfred E. Burton. These men went outside their regular teaching duties to help us when we needed encouragement in our pioneering statistical and forecasting work.

Yet during these fifty years, the art of forecasting business and markets has merely been scratched. Psychology, cybernetics and other fields will supplement statistics to improve the results of the next fifty years. Otherwise, the recent substitution of political legislation for the gold standard and other historical barometers, will make our work even more difficult in years ahead.

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## Library Study

A COMPREHENSIVE review of the Institute's library facilities, budget, and operations was made at the March 19, 1954, meeting of the Visiting Committee on the Library.\* The report of this Committee, dated June 11, was approved for publication and received by The Review on September 29, 1954, and a condensation is presented below. Members taking part in the March 19 meeting were: John J. Desmond, Jr., chairman, Charles W. David, William Emerson, William W. Garth, Jr., '36, Carl T. Keller, Ralph T. Walker, '11, and Walter M. Whitehill. Pierre F. Lavedan, '20, was in South America. By invitation, Vernon D. Tate, Director of Libraries, and Robert E. Booth, Associate Librarian, were present. Attending a portion of the meeting were James R. Killian, Jr., '26, President, and Michael B. Bever, '42, chairman, Executive Board of Faculty Committee on the Library. Chairman Desmond convened the meeting at 10:00 A.M., and reviewed recommendations in the Visiting Committee report of October, 1953, which served as the basis for the agenda.

The physical status of the libraries was reviewed. No changes will be required for the General Library and for the Dewey Library of Industrial Management, although the branch library will require additional space in the next few years. Minor acoustical treatment and entry changes have been suggested for the Science Library. The Engineering Library and the Rotch Library of Architecture and City Planning are urgently in need of new lighting which the Visiting Committee recommended be completed as soon as possible. It was recommended that a mezzanine be built at one end of the second floor of the Hayden Library, and that the Humanities Library be moved to this location.† This move will leave the space vacated by the Humanities Library as a Reserve Book and Reading Room. A separate through passage on the west side of the Hayden

\*Members of this Committee for 1954-55 are: John A. Lunn, '17, chairman, Luis de Florez, '11, Ralph T. Walker, '11, Pierre F. Lavedan, '20, John W. Barriger, 3d, '21, Charles W. David, William Emerson, Carl T. Keller, and Walter M. Whitehill.

†This change has been made during the summer.

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Library is needed, and the Committee urges that provision be made for a separate corridor. The Committee feels that the M.I.T. libraries are in physically good condition.

The Committee reviewed the Library's budget, especially with respect to salaries of its devoted and well-trained staff and also with respect to acquisition funds. The total library budget in 1940 amounted to \$75,000 and in 1952 this figure had grown to \$235,000. While this is a good record, it is by no means a distinguished one. The Committee felt that budgets for salaries and acquisitions should be augmented to keep pace with current and growing needs.

In its report of 1953, the Visiting Committee observed that the Dean of the School of Humanities provided liaison between the library and the Institute's Administration and urged that this matter be studied. President Killian indicated that the whole administrative structure of the Institute was under study. The present arrangement is operating satisfactorily.

An Industrial Reference Service which would make the M.I.T. Library available to industry in the Boston area on a supporting basis was outlined. The Committee feels this service to be a useful and desirable addition to library facilities. The Committee feels that adequate, rapid photocopying facilities, which would be required for this service, should be installed and operated by the library to establish service facilities comparable to those in other large research libraries in the country.

### Progress by Physicists

THE Visiting Committee on the Department of Physics<sup>\*</sup> held a well-attended series of meetings in Cambridge on March 3 and 4, 1954. The report of the Committee, summarized below, was reviewed at the June 11, 1954, meeting of the M.I.T. Corporation and the September 17, 1954, meeting of the Executive Committee. It was released for publication in The Review on September 29.

James R. Killian, Jr., '26, President was present at the start of the meeting on Wednesday morning, March 3, at which meeting Professor Nathaniel H. (Concluded on page 160)

<sup>\*</sup>Members of this Committee for 1953-1954 were: Thomas C. Desmond, '09, chairman, Ralph P. Johnson, '36, William Shockley, '36, Edward U. Condon, Mervin J. Kelly, Alfred L. Loomis, I. I. Rabi, and Alan T. Waterman.



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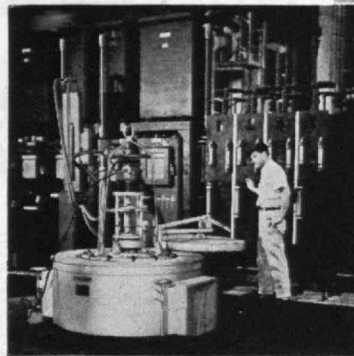
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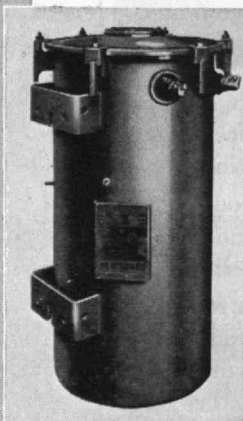
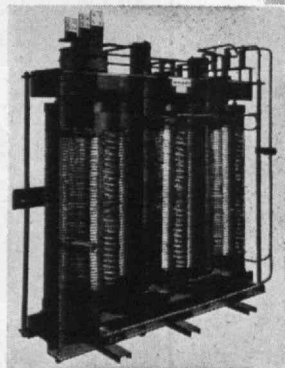
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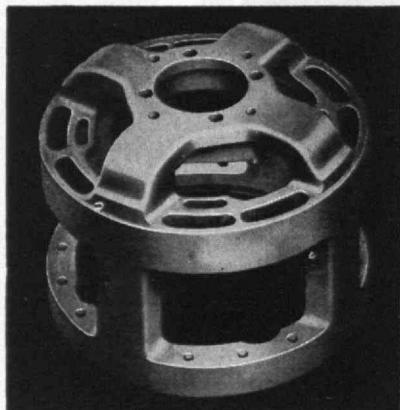
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## THE INSTITUTE GAZETTE

(Concluded from page 159)

Frank, '23, Head of the Department, discussed in some detail the new Physics curriculum. This curriculum, on which a great deal of effort has been spent, is designed to permit as much flexibility as is consistent with high standards of achievement. In the usual four-year course, a student of exceptional ability could gain nearly a year in his progress toward an advanced degree. On the other hand, a student desiring a more leisurely pace, or the chance to expand his training into other fields, could do so without being hard-pressed. There was considerable discussion regarding the requirement of a language achievement test. It was felt that such a requirement would be realistic only if some use were made of the foreign language in the third and fourth years.

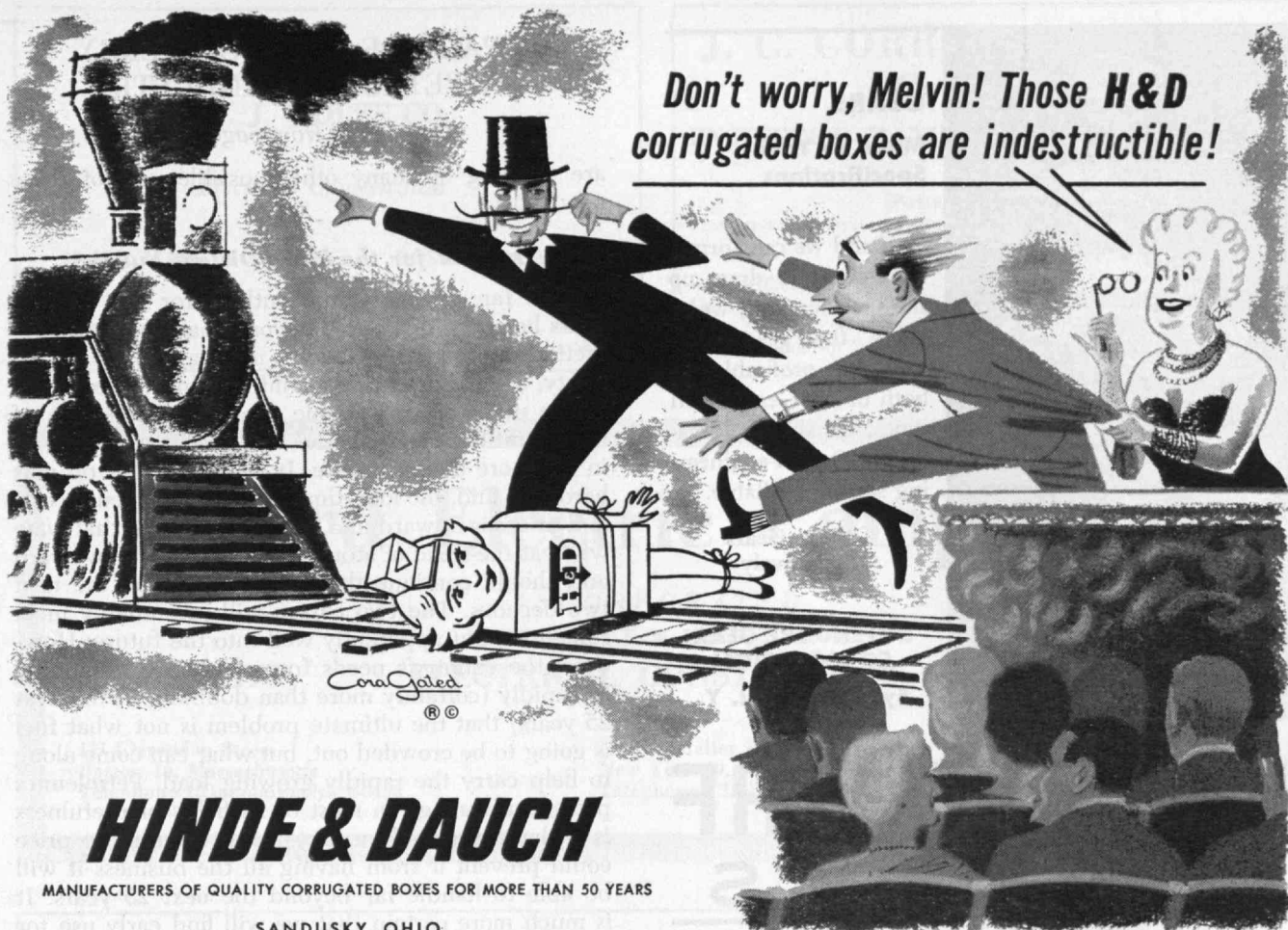
The actual content of several of the third and fourth year subjects was discussed in some detail. Although agreement was not unanimous as to the ideal content, it was generally felt that the objectives were right.

Professor M. Stanley Livingston next discussed a proposal for a high-energy accelerator (in the 15 billion electron volt range) for the "Cambridge area." It was estimated that construction would cost about \$2,500,000 and require two or three years. In addition, operation and maintenance was estimated to require a continuing amount of about \$1,000,000 per year. The Committee felt that, because of the present progress in high-energy physics, and in order to maintain leadership in the field, M.I.T. and Harvard might well ask for support in building and operating such an accelerator jointly, under terms which would not involve too onerous financial burdens on either institution.

After lunch at the M.I.T. Faculty Club, with a small group from the Physics Department, Wednesday afternoon was devoted to an inspection of the undergraduate laboratory facilities. The Committee was particularly impressed with the zeal of the students working on such things as the Millikan Oil Drop experiment, the Zeeman effect, microwave measurements, and so on, in the junior laboratory.

At the Thursday morning, March 4, session of the Committee, the Director of the Research Laboratory of Electronics, Professor Jerome B. Wiesner of the Department of Electrical Engineering, outlined some of the history of the origin of this laboratory, which came into being with the termination of the wartime Radiation Laboratory operated by M.I.T. for the Office of Scientific Research and Development. He emphasized the close co-operation between the Departments of Electrical Engineering and Physics, and the advantages that have come about because of this. The general fields of research being carried out were discussed in some detail. Peter T. Demos, '51, Assistant Director of the Laboratory for Nuclear Science, next outlined the research program of that laboratory, and the personnel involved.

Following these talks the Committee visited several of the research projects in the laboratories.



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## IMPACT OF ATOMIC ENERGY ON PETROLEUM INDUSTRY

(Concluded from page 142)

are working on many other possible uses of these new tools.

### Outlook for the More Distant Future

Thus far, primarily, the outlook for the next 25 years has been discussed. Beyond that time, any predictions are bound to involve more and more uncertainty, not only because of unforeseen developments in the utilization of atomic energy, but because of uncertainties regarding the rate of discovery of oil in the more distant future. It is true that as oil gets harder to find, the long-time trend of petroleum costs and prices is upward and likely to continue that way; whereas the trend of atomic power costs is downward and should continue that way for at least the next two decades. The two curves will presumably meet sometime, but apparently well into the future. However, the country's needs for energy are expanding so rapidly (certainly more than doubling in the next 25 years) that the ultimate problem is not what fuel is going to be crowded out, but what can come along to help carry the rapidly growing load. Petroleum's present advantage in most of its fields of usefulness is so large that only a very major increase in price could prevent it from having all the business it will be able to handle far beyond the next 25 years. It is much more certain that we will find early use for all the petroleum we discover in this country than it is for uranium—our weapons requirements will certainly decline and breeder reactors will sharply reduce prospective uranium requirements for generating a given amount of power.

Barring a world cataclysm, world population in the next century is almost certain to increase by threefold and its power requirements at least tenfold. With this outlook, the author, for one, welcomes atomic energy with open arms. For the long pull it will be, not a competitor, but a burden sharer; and its ultimate availability should still the recurrent cry that we are running out of oil and that the government should therefore take us over. Atomic energy today needs both industrial and governmental help. The oil industry has proven rather conclusively that it can do a highly efficient job as a private enterprise. The availability of atomic energy should help us keep it that way, and is therefore doubly welcome.



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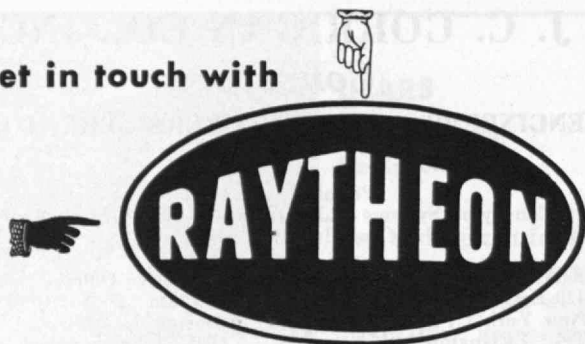
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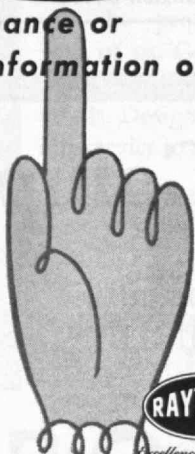


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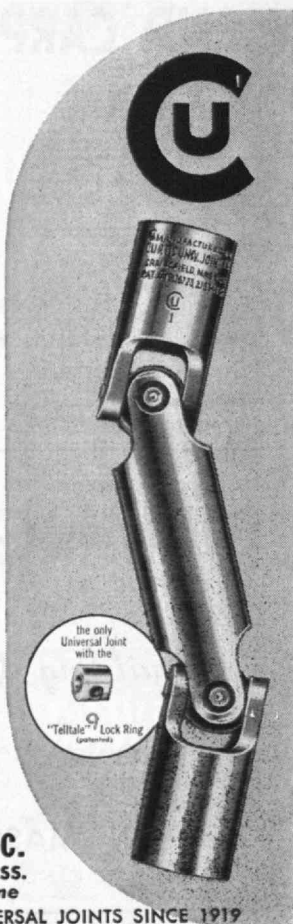
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(Concluded from page 145)

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Sidney Hook has said that emotional maturity connotes among other things the habit of reasonable expectation. For this the individual needs a knowledge of himself and a historical prospective together with "an awareness of how the best of men fall far short of their own ideals." Emotional maturity is acquired slowly, cannot be forced, and like most virtues is more likely to be achieved by indirection. Hook goes on to say that intellectual maturity is the capacity for reasonable assessment of evidence. The mature man does not assume that knowledge in one field carries over into another. His thinking is effective only when it reveals command of subject matter. It requires respect for, but not worship of, facts.

The mature person lives in harmony with his conscience. He can live without certainty and not be overwhelmed by anxiety. He makes the most of what he has, rather than being preoccupied with what he cannot have.

Part II, the conclusion of Dr. Farnsworth's article, to appear in the February, 1955, Review, discusses the theoretical and practical aspects of student counseling, and the aims of the counselor-teacher at M.I.T.

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## MAPS, OLD AND NEW

(Concluded from page 138)

marginal data, common geodetic datum, and common military grid (Universal Transverse Mercator). The U.T.M. grid replaces 17 grids formerly used in western Europe. The second phase of this program, bringing existing maps up to date, has begun. N.A.T.O. countries are now preparing international standards for symbols, scales, sheet lines, and terminology. When accomplished, this standardization will permit large savings in time and money.

Modern maps have many uses. Wars have always required maps and stimulated new techniques for making them. In a military operation maps are as essential as bullets. World War II and the Korean conflict revolutionized making of maps for military purposes. No longer are military operations localized activities—they have assumed a global aspect. Today the military must know locations, not in the next valley or over the next hill, but on the other side of the world. As our world has grown smaller with the development of high-speed transportation and communications, our need for world-wide mapping has increased tremendously.

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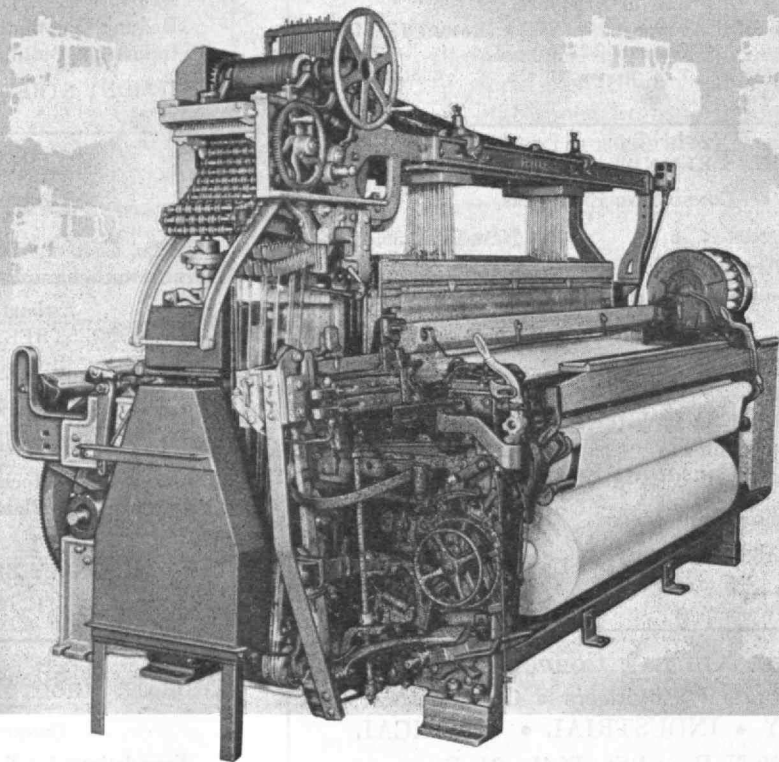
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With each new fibre comes an opportunity to builders of textile machinery. The Draper XD Loom is a model of versatility, primarily designed for weaving filament rayon and acetate. It now handles equally well newer science fibres, either filament or staple.

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# Alumni AND Officers IN THE News

## Awarded To:

WILLIAM HENRY McADAMS'17, Professor of Chemical Engineering at the Institute — the Worcester Reed Warner Medal of the American Society of Mechanical Engineers. The award was made on December 1, 1954, at the Hotel Statler, New York, for Professor McAdams' work on heat transmission.

NATHAN CHERNIACK'22 — the Distinguished Service Medal of the Port Authority of New York. This award was made to Mr. Cherniack for "his outstanding ability which has earned him the respect not only of Port Authority

staff members but also of outside representatives of the transportation industry, and for his loyalty, initiative and integrity."

ROBERT W. DRESSER'26 — A citation and fellowship by the Audio Engineering Society, in recognition of his pioneering audio test records and for audio work for Vitorama and Cinerama."

HAROLD M. RICH'52 — A \$4,000 Fellowship by General Foods Fund, Inc. This is the first time this award has been made and is given on the basis of a national competition sponsored by the Institute of Food Technologists.

R. BUCKMINSTER FULLER, Lecturer in the Department of Architecture at the Institute — the U.S. Marine Corps Award of Merit for his pioneering experimental work on light-weight structures which can be moved by helicopter.

KARL UNO INGARD, Assistant Professor of Physics at M.I.T. — the Biennial Award of the Acoustical Society of America, in recognition of outstanding contributions to the science of acoustics. The award was made at the 25th anniversary celebration of the Acoustical Society of America, June 23-26 in New York City, New York.

## Trend to the Top

THOMAS C. DESMOND'09 delivered the Roy V. Wright Memorial Lecture at the annual meeting of the American Society of Mechanical Engineers for which he received a certificate. Mr. Desmond was recently reelected as president of the Phi Beta Kappa Associates, a national organization which raises funds for the benefit of the United Chapters of Phi Beta Kappa. Senator Desmond was also reelected to his 25th consecutive year as a Republican member of the New York State Senate.

WILLIAM R. GLIDDEN'12, bridge engineer for the Virginia State Highway Department, was appointed to serve as president of the American Society of Civil Engineers for the year 1954-1955.

Among men elevated to the rank of Fellow of the American Society of Mechanical Engineers are PHILIP L. ALGER'15, consulting engineer, General Electric Company, and ROY G. RINCLIFFE'23, President, Philadelphia Electric Company.

BRODERICK HASKELL'22, Vice-chairman of Combustion Engineering, Inc., has been elected a director of the Atomic Industrial Forum, Inc.

GEORGE NEITLICH'24, manager of the Morton District office of the Metropolitan Life Insurance Company, was elected vice-president of the American Society of Chartered Life Underwriters at their national convention.

FRANCIS J. COUGHLIN'25 has been named department head in charge of professional and research services in the Research and Development Department of the Procter and Gamble Company.

Among leading radio engineers and scientists recently named Fellows of the Institute of Radio Engineers by the Board of Directors were the following M.I.T. men: CHARLES STARK DRAPER'26, Professor of Aeronautical Engineering, in charge of the Department, GORDON S. BROWN'31, Professor of Electrical Engineering, in charge of the Department, JAMES B. FISK'31 and WILLIAM SHOCKLEY'36, both of the Bell Telephone Lab-

oratories in New Jersey, and JAMES W. FORRESTER'45, Division of Defense Laboratories, M.I.T.

ROBERT A. CANNING'30 has been named manager-manufacturing engineer for the J. C. Morrison Edmore plant at Edmore, Mich.

RONALD L. YOUNGSON'30 has been elected vice-president and production manager of the Paragon Products Company, Oshkosh, Wis.

THOMAS A. FEARNSIDE'31 has been appointed chief mechanical engineer and head of the mechanical division of the Stone and Webster Engineering Corporation.

DR. ROBERT E. HOPKINS'37 was named director of the University of Rochester's Institute of Optics.

JERVIS C. WEBB'37, President and General Manager of the Jervis B. Webb Company, has been elected president of the Conveyor Equipment Manufacturers Association of Washington, D.C.

## Obituary

GEORGE A. CAMPBELL'91, November 10.  
C. EMIL MULLER'92, January 17, 1940.  
JOHN F. TOMFOHDRE'93, November.  
RICHARD WHITNEY'93, September 3.  
GEORGE G. GREENE'95, September 3.  
SAMUEL S. SADTLER'95, November 2.  
BUTLER AMES'96, November 6.  
CHARLES H. GIBSON'96, November 17.  
GEORGE F. HATCH'97, July 2.  
JOHN H. LARRABEE'98, March.  
HORACE R. THAYER'98, September 25.  
TIMOTHY C. O'HEARN'99, October 12.  
MRS. GUY C. FERNALD'99, September 27.  
CHARLES M. CULP'01, October 12.  
HAROLD N. CROSS'03, November 11.  
CARL J. SCHRIFTGIESSER'03, August, 1952.  
HENRY K. RICHARDSON'04, November 14.

ARTHUR H. LANGLEY'04, November 13.  
LOUIS L. BOOTH'06, June 4, 1953.\*  
LEMUEL D. SMITH'06, October 7.\*  
JAMES P. WEY'06, June 18.\*  
HAROLD G. BROWN'07, December 24, 1953.\*  
JAMES A. McELROY'07, October 4.\*  
STILES F. KEDY'08, October 27.\*  
F. ALDRICH MOORE'11, October 29.\*  
HOWARD R. SCHULZE'11, July 2.\*  
SAMUEL H. SCRIBNER'11, October 1.\*  
BLISS K. WENTWORTH'15, December 17, 1950.  
ALBERT C. LIEBER'16, November 9.\*  
JAMES C. MERRITT'16, November 7.  
RALPH E. TRIBOU'19, October 1.\*  
LEWIS ANDREWS'21, February 18.\*  
CHRISTOPHER L. TORTORELLI'21, February 22, 1951.\*  
WILLIAM M. LAUGHTON'22, July 21.\*

DONALD H. McCREERY'22, June 11, 1951.\*  
HAROLD D. MAHONEY'22, Date unknown.  
PAUL J. THAYER'22, January, 1950.\*  
GEORGE W. EMERSON, JR., '24, October 6.  
EDWIN B. MAYNARD'24, August 21.\*  
MANUEL LIWANAG'27, December 19, 1953.  
CARL EIBYE'28, December 24, 1947.  
THOMAS A. MIDDLEBROOKS'30, February 3.\*  
PHILIP E. PINSAN'30, March 5.\*  
JAMES TYSON, JR., '30, July 20, 1952.\*  
IGNATIUS A. WOJTAZAK'30, February 26.\*  
JERRY DENSLOW'41, March, 1953.\*  
FREDERICK A. RUSSELL, JR., '45, September 22.  
CHARLES E. RICHBOURG'50, November.  
\*Mentioned in Class Notes.



# News FROM THE Clubs AND Classes

## CLUB NOTES\*

### *M.I.T. Club of Buffalo*

"New Frontiers at M.I.T.," was the topic of an address by Professor Erwin H. Schell'12 at a dinner meeting of the Club on October 28, 1954, in the Park Lane. Sixty Alumni and guests heard Professor Schell, Head of the Department of Business and Engineering Administration, tell about some of current developments in research and technology at M.I.T.

Emphasizing "those frontiers that have a direct allure for you and for me," the speaker described in non-technical terms some of the many fascinating projects in food technology, meteorology, housing, geology, health and mental behavior. A report was given of how the Department of Economics and Social Science is studying the organization and management of research and how the communication systems affect productivity and creativity in research. Professor Schell stressed the value of present research and reiterated "that the forces of research at Technology are being turned to peace-loving purposes no less than to those of national defense" and that "the powers of science are being employed increasingly to raise living standards and to lessen human misery." William Speer, Associate Dean of Students, and Donald P. Severance'38, Secretary-Treasurer of the Alumni Association, were also present at this meeting. — BENJAMIN C. BUERK'30, *Secretary*, 315 Grote Street, Buffalo 7, N.Y.

### *M.I.T. Club of Central Massachusetts*

The Club held its first meeting of the season November 8 at the Worcester Airport Terminal. After a very pleasant social hour and dinner in the Stockholm Room, a short business meeting was conducted. Don Whitehead'45, who presided in place of Fred Dillon, Jr.'22, then introduced our two guest speakers for the evening: Mr. Jack H. Frailey'44, Coach of the 150# crew, and Professor Robert C. Seamans, Jr.'42, Head of the Flight Control Laboratory at M.I.T.

The talks were certainly among the most interesting we have heard. Mr. Frailey showed films and color slides of the M.I.T. 150# crew rowing at the Henley Royal Regatta. This victory of the crew was probably the greatest in M.I.T.'s rowing history; Mr. Frailey's commentary was outstanding. Professor Seamans' subject was "Guided Missiles"; hampered as he probably was by security regulations, he gave an extremely lucid and interesting discourse on the development of missiles in this Country.

The remaining meetings for the season were announced by Dick Harris'48. The January 17 meeting will be held at the

Sheraton Hotel in Worcester and will feature Professor T. M. Whitin speaking on Operations Research. Eli Shapiro will speak on Finance at the Hickory House in Worcester in March. For April we plan to visit the Wyman Gordon Plant in West Grafton. Our annual ladies night will be held at Sterling Inn with Don Carpenter of Du Pont showing his Himalayan films. — J. E. HAGGETT'47, *Assistant Secretary*, 12½ Sturgis Street, Worcester, Mass.

### *M.I.T. Club of Cincinnati*

The first dinner meeting of the season was held on October 12 at the Vernon Manor Hotel. Following dinner, the members of the Club enjoyed hearing Professor Rolf Eliassen'32, who heads the Division of Sanitary Engineering at the Institute, report on "Recent Developments at M.I.T." Doctor Eliassen reported on such aspects of Institute life as the growth in physical plant, the expanding of the humanities, the growth of the dormitories and the new emphasis on campus community living, and the ever increasing size of the investment required to keep abreast of developments in technology.

Several Alumni present were particularly interested in the increasing role played by the humanities which includes music courses as a part of the curriculum. Doctor Eliassen concluded his talk with the showing of several slides illustrating the recent developments.

Present were: Ray Tully Bradford'44, John J. Brown'32, Charles Burchard'38, Gerald S. Burns'51, W. P. Cadogan'41, W. W. Carter'29, John Comer'49, S. I. Crew'34, Charles P. Dreyer'32, Wilton M. Fraser'47, W. B. Fogarty'04, Edward A. Fox'50, Frank J. Iskra'48, E. H. Kuckemeyer'11, Eugene A. Leary'54, William Layson'56, H. D. Loring'07, Howard Mills'52, John Morgenthaler'51, James W. Pearce'37, J. Stanley Raffety'22, Earl N. Reynolds'39, D. T. Richardson'40, F. O. Rickers'22, C. H. Spiehler'08, R. B. Schildknecht'30, J. S. Stolley'52, Charles H. Urban'91, Ernest G. Weating'51, and H. W. Wyatt'47. — GERALD S. BURNS'51, *Secretary*, 2368 Victory Parkway, Cincinnati 6, Ohio.

### *M.I.T. Association of Cleveland*

Cleveland will be the site of the third M.I.T. Midwest Regional Conference on February 26, 1955. The conference will be held at The Mid-Day Club in the Union Commerce Building in Cleveland. A series of such regional M.I.T. conferences has been held in the past several years and they have been outstandingly successful. The most recent conference in our area was held in Detroit last year. Nearly 250 persons attended that meeting, and it is hoped that the attendance at the Cleveland conference will be even larger. The meeting will include two discussion sessions, one in the morning and one in the afternoon, at each of which

several speakers will discuss current developments and future trends in selected areas of science and engineering. Although the details of the program are not known at this writing, an outstanding array of speakers is being planned. The program will also include a luncheon and an evening banquet.

We expect to have Dr. Killian with us for the conference, and several members of the M.I.T. faculty. All M.I.T. Alumni within a several-hundred mile radius of Cleveland have been invited, and we also expect a substantial number of persons who are not associated with M.I.T. Be sure to mark the date, December 2, on your calendar. You will receive further details by mail. This will be a great occasion for all M.I.T. Alumni in the Cleveland area and in the Great Lakes region, and we hope to see you there. — HERBERT J. HANSELL'46, *Secretary*, 1759 Union Commerce Building, Cleveland 14, Ohio.

### *M.I.T. Club of Cuba*

The Club held its regular annual dinner meeting on July 20, in Havana, at the American Club. President Alfredo Pedraza'41 reported the sudden death of Dr. Karl T. Compton and spoke briefly on his outstanding personality and his memorable doings for the benefit of the Institute. As a tribute to the memory of Dr. Compton, all those present stood up a few moments in silence.

President Pedraza called on Helier Rodriguez'21 to report on his recent visit to M.I.T. when he attended the Alumni Reunion and asked Mike Amezcaga'24 to tell the members about the thirtieth reunion of his Class, which he attended. Antonio Badia'43 made spoken sketches of Club members, not mentioning names, in a humorous and amusing manner of his own that were most entertaining and greatly enjoyed. A hand of welcome was given to a new member, Daniel Kokiell'54. A hand of greeting was also given to Andres Freitas'44, visiting from Santo Domingo.

The election of officers was held and the following members were chosen to conduct the Club activities during the ensuing year: President Pablo Beola'14; Vice-president, Antonio Badia'43; Secretary, Hari Cruz Bustillo'34; Treasurer, Rafael Laredo'44; Assistant Officers, Juan Navia'50 and Juan Chibas'31.

Those present at the meeting were: Rolando Martinez'08; Pablo Beola'14; Antonio Helier Rodriguez'21; Miguel Amezcaga'24; Justo L. Michelena'25; Antonio Rosado'24; Gaspar Vizoso'31; Hari Cruz Bustillo'34; Alberto Villamil'42; Antonio Badia'43; Victor Camona'43; Gonzalo Docal'44; Rafael Laredo'44; Manuel Cadenas'45; Angel Figueredo'45; Salomon Heisler'48; Federico Lindner'48; Luis Suarez'48; Juan Navia'50; Miguel Epstein'50; Arturo Martín de Nicolás'50; Manuel López Navas'50; Jaime Urrea'51; Enrique Rodríguez'49; Thomas Rosenberg'51; Daniel Kokiell'54; Alfredo Pedraza'41. —



A. H. RODRIGUEZ'21, *Review Secretary*, Concorida 61, Habana, Cuba.

### **M.I.T. Club of the Miami Valley**

On Wednesday, November 3, the Club had a dinner at the Van Cleve Hotel followed by a meeting at which Professor William Dennen of the Geology Department of the Institute answered questions for prospective students and carried the commentary for the showing of the M.I.T. colored slides. Sixteen attended of whom six were guests. A plant visit trip through Delco Products Division of General Motors is planned for November 24th. — E. E. BARNEY'42, *Secretary*, 1720 Academy Place, Dayton 6, Ohio.

### **M.I.T. Club of New York**

Since our last report to you on September 17 the program of the Club has started off with a great deal of success. The Beer Party put on by Andy Mooradian'34, from the standpoint of attendance, was the most successful party held by the Club. There were over 300 Alumni present. Considerable credit for this large turnout should be given to Harold Smiddy'20 who gave us a very stimulating talk on the subject of "How To Triple Your Income In Ten Years." It was very hard to decide whether the large turnout was due to the beer offered by Ruppert's Brewery or the advice offered by Harold Smiddy'20. At least during the speech there was very little movement in the hall except for the occasional gusts of laughter in response to the remarks of the speaker.

In October the Long Island Group, through the courtesy of Dr. Leland J. Haworth, visited the Brookhaven National Laboratories. It was a very well organized trip and there were about 140 men who took advantage of it. One happy note is that both the Long Island Chapter and the M.I.T. Club of New York secured a number of new members. We are now looking forward to listening to Tom Lippert, Manager of Sales and Technical Services of the Titanium Metal Corporation, deliver a speech on the subject of "Titanium." We are promised an authoritative story on the potentials of this new wonder element from the standpoint of availability and application. Ralph C. Wilts'41, Chairman.

The only new addition to the program of the Club which wasn't mentioned in our last report is a dance to be given on Long Island on December 3. Plans are still under way for the Mid-Winter meeting of M.I.T. in New York devoted to "Automation" and the Silver-Stein Award dinner in April. On Sunday, November 21, the C.B.S. Television network recognized the activities of M.I.T. "Whirlwind," "Felix, the Moth," "Harry, the Mouse," are the names of leading characters in the story of a new industrial revolution. The story was filmed at the Automatic Control Research Center at M.I.T. and was presented on "The Search," a C.B.S. television program. At the last Directors meeting of the Club, I. D. Jakobson'21, was nominated as a candidate for the National Nominating Committee of the Alumni Association. This is a small recognition of the many services Irv has performed for both the

Institute and the Club. He recently assisted in the formation of the M.I.T. Alumni of Long Island and is now serving as its chairman. — M. R. MCGUIRE'41, *Secretary*, The Cooper-Bessemer Corporation, 25 West 43rd Street, New York 36, N.Y. JOHN E. PLANTINGA'45, *Assistant Secretary*, Meyer, Strong and Jones, 101 Park Avenue, New York 17, N. Y.

### **M.I.T. Club of Northern New Jersey**

News of Dr. Compton's sudden passing last June was a great shock to all of us. Our deepest sympathies go out to Mrs. Compton and the family. It is fitting and pleasant to note that the Alumni Association has unanimously voted to set aside all of the 1954-1955 Alumni Fund receipts and to give them to the Institute as a help in the erection and refurbishing of the new Karl Taylor Compton Laboratory for Nuclear Science and Electronics which is to be built on the north side of the new Dorrance Food Technology Laboratory completed last year. Dr. Compton played a large part in the planning of the new laboratory for research in electronics and nuclear science, and the Institute and Corporation thought it most befitting when it decided overwhelmingly to name the laboratory after Dr. Compton as a memorial to our late ex-president and chairman of the Corporation. It is hoped that all of us will contribute as freely as we can this year to the Alumni Fund in order to make this notable and deserving project a great success.

Unfortunately, the deadline for this month's column comes before the scheduled meetings of the month. A report of the Board of Governors' meeting scheduled for November 16 and the general Club meeting scheduled for November 30 will be given in next month's column. The November 30 meeting, to be held at the Suburban Hotel in Summit, should be quite interesting as it concerns color television. — STUART G. STEARNS'39, *Secretary*, 25 Elmwood Place, Short Hills, N.J. JOHN T. REID'48, *Assistant Secretary*, 80 Renshaw Avenue, East Orange, N.J.

### **M.I.T. Club of Puerto Rico**

The Club held its annual meeting on June 4, 1954, at the Faculty Club of the University of Puerto Rico. After the reports were made, the election was held with the following results: Angel Silva'31, President; Jose D. Dominguez'27, Vice-president; Manuel Vinas Sorba'45, Secretary, 1555 Francia Street, Santurce, Puerto Rico; Jorge Lopez Ramirez'45, Treasurer; Cesar S. Canals'26, Board Member, Angel del Valle'43, Board Member, Antonio S. Romero'12, Past President. On September 3 another meeting was held at the Faculty Club of the University of Puerto Rico. After the meeting we all enjoyed the cocktails, dinner, and a film on atomic energy and other scientific developments. — MANUEL VINAS SORBA'45, *Secretary*, 1555 Francia Street, Santurce, Puerto Rico.

### **M.I.T. Club of Sao Paulo**

Through the courtesy of Allen G. Velho '39 our fifth meeting was held in the management's dining hall at the new plant of

E. R. Squibb and Sons. The following nominees were elected for office: Victor F. B. de Mello, 6-46, President; and Allen G. Velho'39, Vice-president.

Recognition of the M.I.T. Club of São Paulo by the Alumni Council was announced. We quote from the minutes of the 304th meeting of the Alumni Council, held at the Faculty Club, Sloan Building, on Monday, May 24, 1954: "The Executive Committee voted recognition for the M.I.T. Club of São Paulo which held its first meeting on March 12, 1954, in that City. Harry L. Moody'07 was elected Council Representative for this new Club. (This was especially appropriate since Mr. Moody's son, Robert L. Moody'34, was elected the Club's first president.)"

Closing the meeting Werner O. Bachli '33 suggested several activities for future Club engagements. After the meeting a very interesting visit was made to the largest penicillin plant in South America. Detailed explanations on the method of manufacture, raw materials, quality control, utilities involved, and so forth, were given by Allen G. Velho, Jorge H. Jonston'32 and Heinz Gunther'52, all members of the local Squibb organization.

Members present at the meeting were the following: Jorge H. Jonston, Werner O. Bachli, Allen G. Velho, Gunner Orberg'42, Oswaldo F. F. Torres'45, Victor F. B. de Mello, Joaquim M. Batistella, 2-46, Jose Franco de Souza, 9-46, Paulo F. B. de Mello'47, Rogerio N. da Silva Rego'47, Eduardo Prado Junior'50, and Heinz Gunther'52. — ROGERIO N. DA SILVA REGO'47, *Secretary-Treasurer*, 376 Rua São Carlos do Pinhal, São Paulo, Brazil, South America.

### **M.I.T. Club of Schenectady**

Any season is well begun with a steak-roast like ours. That September 19th lacked nothing that a fine Sunday picnic should have. It even gave the newly elected officers their chance to defy the weatherman and call out a brilliant Indian summer sun to shine on the 15 M.I.T. families, just long enough to enjoy our dinner and raffle off the surplus food. Now we even know that each of us consumed 1.3 cents worth of tomatoes, 47.7 cents of assorted liquids, and 92 cents of good solid seared steer. The Club officers for this year are: J. C. Acton'50, President; R. E. Wilson'45, Treasurer; H. Stern'50, Secretary. Our nine man steering committee has chosen a theme to be the focus for our monthly luncheon meetings. We will be hearing engineers from many walks of life. Their opinion on "The Engineer's New Horizons and Responsibilities" will be the subject of their talks. — HANSJOERG STERN'50, *Secretary*, 1804 Hillside Avenue, Schenectady, N.Y.

### **M.I.T. Club of Southern California**

This letter to the Alumni will differ greatly from those preceding as there have been no meetings since the last report, although by the time this is read both the interesting talk on Synthetic Crystals of November 16 by Dr. Pough and the address of Dr. Rolf Eliassen'32 on December 1, Fresh Water From the Sea, will be water over the dam.

The *Fortnight* of November 3 among their album of "Top Ranking Performers of California in 1954" pictures Richard P. Feynman, physicist, who came to Cal Tech in 1950. I wish to put in a plug right now for the magazine *Fortnight* to all Californians. It is 100 per cent about California and rather truthful—about many *status quos*. A pleasant surprise also when I inquired about the college affiliation of the treasurer of the Kuchel for Senator Campaign. It was Emerson Spear '22.

Now for the New Look. No more about Southern California but a few highlights on my recent trip to see fall foliage (I admit we do not have it in Los Angeles); the birthday of our son in Marshfield, Wis. (with the Roddis Veneer Company); our nephew in Bronxville, N.Y. (incidentally the United Nations), the old family spots south of Buffalo, N.Y., including the family graveyard over 100 years old in Sandusky and M.I.T.

Any relation of the cemetery to M.I.T. is pure coincidence as Tech to me was a busy, humming, hive of industry. The stewardess, Maida Strickland, on the Eastern Air Lines flight from New York took us to the pilots Leibermundth and Keay who pointed out Mt. Washington about 180 miles north. The altitude of 7,000 feet, below the clouds, with a clear day, made it easy to see New London where my Class of 1910 gathered Alumni Day in June, 1950. The great number of lakes in Massachusetts which are not seen from the highways or train made one think of Minnesota around the Twin Cities.

Wallie Ross, the mentor of the Technology Christian Association for about 25 years met us at the airport and tangled us through the maze of Boston streets, and the Lynn Tunnel, the top floor of the old Lever Building is the Faculty Club. The dining room about 50 by 100 feet and packed with professors and conversation. That was one of the main impressions—the hearty and continuous exchange of thoughts and friendly contacts at M.I.T.

The executives of the Alumni Association, H. E. Lobdell'17 and Donald P. Severance'38 stopped at our table for a visit, but they had previous engagements and our time in Boston was short so this was the only contact. They seemed more interested in asking questions about California than in anything else, so we may be favored with their presence here. Mr. Ross kindly took us to the Sheraton Plaza and then to Harvard. His help will be long remembered. That evening we had the big roast beef at Durgin Park—crowding off the plate in size, but delicious in flavor. The stay at the Plaza was very pleasant, as while at M.I.T. I lived just a block and a half east on St. James, and took pictures from my third story hall bedroom window of a circus parade going south on St. James with Trinity Church in the background. There was a slight difference however, in the cost as the per diem at the Plaza was about the same as my room rent was for a whole month back in 1909, on the same street. The Public Library is as fascinating as ever with Sargent's Prophets, the Chauvannes pictures and Abbey's Search for the Holy Grail. From our window we could see

both the Trinity Church and the Library and across Copley Square, Old North Church.

Friday noon, Mr. Ross took us to Walker for luncheon—practically all students there and another busy visiting place. The food and service have improved in 45 years and the dining hall is a beautiful room—murals by Blashfield, who by the way decorated the Governor's Reception Room in the South Dakota State Capital. That afternoon, believe it or not, we took The Tour, Longfellow's House, Glass Flowers at Harvard, Lexington, Concord, Thoreau's haunts, and so forth and so on. On account of congested traffic, I took the subway in the last two miles. The Boston subway signs are good and I'd like to meet the man who designed and placed them. I used the subway a lot in the two and a half days and liked the long cars each of which probably held about 200 people each in the rush hours. That evening, our nephew, Paul Valentine, of Elgin, Ill., graduating this year from Tech, brought in his fiancée for inspection and we took them to dinner, near Copley Square, good food, due again to the knowledge and kindness of Wallace Ross. They took us along the Charles River—lights reflected in it—a very pleasant evening.

The next morning to Mrs. Jack Gardiner's Italian palace, the best arrangement of art treasures of any museum in America. She was human as well as an art lover and the rooms are each artistic units.

I left Mrs. Beebe there to see nephew Paul working on his thesis in the gas laboratory-jet engine design. I fear it brought back memories of Temperature Entropy Berry, our professor in 1910 in Steam Engineering. From there to the beautiful Hayden Library and there should be a plaque there telling who he was—and better yet a booklet. The young lady in charge of the music room found their only Traviata record and played it for me, a change from the usual symphonies. That afternoon we left for Pittsfield where I was an apprentice in 1907, and found more beautiful colored trees. This long recital may have bored some but also it may stir some to renew memories by returning to M.I.T. next Commencement. Please keep me informed of all news items. —HIRAM E. BEEBE'10, *Review Correspondent*, 1847 N. Wilcox Avenue, Hollywood 28, Calif.

### **M.I.T. Club of Western Pennsylvania**

The opening meeting for the 1954-55 season of the Club was held on November 2. We were fortunate indeed to have with us at that time Mr. William Speer, Associate Dean of Students. Mr. Speer gave us an interesting and enlightening talk on the latest student guidance policies in effect at the Institute. At this opening meeting, the following Club officers for the year were announced: Henry Avery '41, President; Al Oxenham'45, Vice-President; James R. Winterbottom'30, Treasurer; William M. Laird'43, Secretary; Jerome Gordon'46, Program Chairman. In addition to the talk by Dean Speer, all those in attendance had an enjoyable evening renewing old friend-

ships and hoisting the traditional stein. The program for the coming year has not yet been announced, but it is intended to have meetings at least every other month until spring, which will include at least one dinner dance or other purely social event. All Alumni in the Western Pennsylvania area are invited to participate in Club affairs.

Those Alumni present at our meeting were: George M. Hoffman'28; Lawrence Gentleman'22; Wes Hemeon'26; Lou Dibona'52; Henry Hoar'25; Andrew Marocchi; Arch Klieves'01; Ernie Ohsol'39; Nick Melissas'53; K. J. Johnson'41; Lew Johnson'43; Henry Rockwood'32; Paul Kruger'50; Don Fraser'28; Roger MacDonald'26; Bill Humphreys'46; Henry Avery'41; James L. Taylor'02; J. Winterbottom'30; Al Oxenham'45; Hugo Johnson'24; Jerry Gordon; Ed Richard'51; Elwood Koontz'36; Tom Stephenson'45; Julian Gammon'45; Ed Murphy'41; William M. Laird'43. —WILLIAM M. LAIRD'43 *Secretary*, Box 242, Oakmont, Pa.

## **CLASS NOTES**

### **• 1893 •**

Since the last notes were sent in for the December issue of *The Review*, we have received a letter from Arthur Fowle, whose new address is 26311 West Fremont Avenue, Los Altos, Calif. He writes that he works every morning at his son's plant in Palo Alto, where they are making camshaft bearings for rebuilt, automotive engines. Their market is from California, across the continent to Boston. Arthur is vice-president of the local bank and president of the Board of Fire Commissioners. He was one of the organizers of the fire district 20 years ago. He attends luncheon with a group at the Bohemian Club in San Francisco at least once a week. Austin Sperry of the Class of '94 is one of the group. Arthur takes a few days every fall to go duck hunting. He regrets that it has been such a long time since he has seen his classmates.

Arthur Jameson retired from business five years ago. He writes that up to that time he had not had time for travel so has been trying to catch up on it by spending six or seven months a year in traveling. This past year he traveled by a cargo ship bound for Bombay, leaving it at Port Said where he spent seven very enjoyable weeks in Egypt and the Sudan. He wandered into upper Egypt, through northern Sudan, Cyprus, Turkey, Greece, Yugoslavia. Our classmate found Greece "entrancing." He had a short visit with an old friend in Lyons, a fortnight in Paris (which he found gay in contrast to his previous visit when it was cold, rainy and grim). Then he went to London and to the countryside of Surrey and Berkshire. The latter two were lovely villages, where there were beautiful flowers, and he thoroughly enjoyed being there. Home looked good to our classmate after this trip. He ends his letter with, "My best to all the boys." We regret to report the death of



John F. Tomfohdre of Somerville, early in November. He was at our reunion and luncheon in June, 1954, and we are sure he enjoyed being there with us. — GERTRUDE B. CURRIE, *Secretary*, Fay Spofford and Thorndike, 11 Beacon Street, Boston 8, Mass.

### • 1895 •

Samuel Schmucker Sadtler, Course V, passed on November 2, at his home, Stenton Avenue and Meadowbrook Lane, Chestnut Hill, Pa. He was one of Philadelphia's foremost research chemists for nearly a half century, and an inventor and writer on technical subjects. He was 80. He attended the University of Pennsylvania during 1890–1891, and graduated in Chemistry from the Institute in 1895, joining his father Samuel P. Sadtler, in founding the firm of Samuel P. Sadtler and Son, consulting and analytical chemists in 1900. Among the industries for which he acted as consultant were the Celotex Company, Tubize Artificial Silk Company, and Etna Explosives. During the First World War, he was an explosive consultant to the U.S. Government and was one of the inventors of liquid fire. He was a founder of the Electrical Chemical Society, of which he served as secretary and of the Chemists Club of New York; former president of the Association of Chemical Engineers and of the Philadelphia Institute of Chemists and Chemical Engineers; and a member of the American Chemical Society, the Society of Chemical Industry of Great Britain and the American Institute of Chemical Engineers. He was a founder and first president of the Meridian Club, and a member of Franklin Institute and the Union League. His writings included contributions to technical journals and a book titled "Chemistry of Familiar Things." Mrs. Helen Sache Sadtler, two sons and two daughters survive him. We have word through the Alumni Register that George Gould Greene passed on September 3. Greene was with our Class, in Course II, during 1891–1893, and was connected with the Lane Technical School, Chicago, Ill.

We are advised that Tommy Lothrop has definitely quit the confines of Chicago and Glencoe, Ill., and for the present is with his son, Arthur P. Lothrop, 7 Inness Place, Glen Ridge, N.J. When he finally selects his chateau, where he can enjoy his "reclining" years, we will tell you. For your information keep in mind that class news for *The Review* must be prepared and entered two months previous to the monthly issue. I am writing in November for the January, 1955, issue, thus your Secretary takes this opportunity to wish all of you a most comfortable and happy New Year — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

### • 1896 •

Greetings and all good wishes for you and yours in 1955. Your Secretaries have been impressed with the verity shown by many of our classmates in their continuance of worthwhile objectives. Scientific research or the application of past achievements brought up to date, or the development of hobbies which activate their mental capacities, are outstanding. The work of Pauly on glacial studies, of

Lythgoe and Harrington Coolidge—Litchfield and Trout in their chosen fields represent a few of those in our Class who refuse to accept old age as a barrier to progress. We still lack information on records achieved by many who are perhaps too modest to bare the results of their effort to be continually on the march. James M. Driscoll on Sept. 26, 1954 was presented with a testimonial certificate marking his 50 years with the American Cemetery Association of which he was president in 1932 and which has recently held its 68th convention in Philadelphia. Mr. Driscoll has retired as superintendent of the Holyhood Cemetery in Brookline. He is a member of the Boston Society of Civil Engineers. A change of address for William H. McAlpine to 4607 Conn. Ave., Washington, D.C. We regret to announce the passing of our classmate General Butler Ames of Tewksbury, Mass. Services were held at his home "The Hill," where he died on November 6 at the age of 83. At the time of his death he was treasurer and director of the Wamesit Power Company, Lowell, Mass. He was a prominent businessman, former Congressman and a veteran of two wars. He was the son of Adelbert Butler Ames and the grandson of Benjamin F. Butler both Civil War generals.

Charles Hammond Gibson of Beacon Street and Nahant died after a brief illness on Wednesday, November 17. Mr. Gibson was a distinguished American socialite, whose travels carried him all over the world, and whose poetry is well known. A more complete review of his life will appear in the next issue of *The Review*. He was 79 years of age.

You already know that the 1955 Alumni Fund is to be entirely devoted to a memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. Now comes the news . . . that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund! — JOHN A. ROCKWELL, *Secretary*, 24 Garden Street, Cambridge, Mass. FREDERICK W. DAMON, *Assistant Secretary*, Commander Hotel, Cambridge 38, Mass.

### • 1897 •

In reply to our circular letter of September 27 asking for more news from the Class we have up to November 1 received three letters only. This is discouraging but confirms what a modest and inarticulate group we are.

Early in October after our notes for the December issue had been sent in, the following came from Jere Daniell, R.F.D., West Franklin, N. H.: "Duly received your notice that you had undertaken our Secretary's job for a while at least. Glad that you consented to handle it, for it will give us all a chance to correspond with you as occasion offers, and as you say we hope that the occasions will not be all obituaries! What a retired man got to offer of interest? Fall is here, the leaves are falling, the hillsides are glorious with the autumn coloring, the lake in front is blue after two days of thick fog and drizzle. You never managed to get up here and see us did you? Hunnewell was here last I think. Last summer we had a fine call from Don Severance and his family.

Not classmates of course but a tie with M.I.T. I have a protégé at Tech this year. You know that I try to help my townspeople to send their boys to our *Alma Mater* when they are in need of assistance, and now with the tuition at \$900 the need is greater than ever. Two more Franklin boys are at Bowdoin this fall taking the Tech preparatory course and in three years they will be entering in their junior year. The boy now at Tech also finished at Bowdoin and is now a Tech junior. Good to see them all coming along. Charlotte and I will probably spend a good part of the winter in Boston as we did last season. We must try to get out and call upon you as we have several other friends and relatives in and about Milton. Now I must make use of the fine day to get busy down on our bathing beach and engineer the hauling out of our bathing float. Arrange tackles and super tackles and perhaps have to call on my trusty automobile for tractive power. Always something to do on the farm! Charlotte thinks that I should mention that August 18 we climbed Mt. Chocorua! A fine climb and we had perfect weather and magnificent views. We were a bit lamed up afterwards but it was worth it!"

What a fine job Jere is doing in guiding students to Technology and helping them financially. Congratulations Jere! Suggestions would be appreciated as to what activities, meetings or reunions for the Class should be considered. An expression of your opinion is desired. One member suggested that a class luncheon should be held the day after each Alumni Day in June at either the M.I.T. Faculty Club or at some place in Boston. Were this plan adopted, should the luncheon include members of the Class only or should wives be invited? It is only through an expression of real interest on the part of the members of the Class that such reunions can be made successful.

Members of the Class were doubtless gratified at our relative standing as recorded in the Annual Report of the 13th annual Alumni Fund viz "Among the non-reunion classes 1897 had the highest average contribution \$79.00." This was due no doubt to the efforts of our late Class Agent, Harry Worcester—God bless his soul! However it was not so complimentary to learn that of the older classes the percentage of enrolled members of the Class contributing—ours at 28 per cent—was among the lowest. Let's get behind our new Class Agent, George Wadleigh, and thus help him improve our in general good record of the past. As you may already know the 1955 Alumni Fund is to be devoted to a memorial to Dr. Compton—The Karl Taylor Compton Laboratories for Nuclear Science and Electronics. Now comes the news that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund. Opportunity is thus offered us to not only express our gratitude for the great service Dr. Compton rendered our *Alma Mater*, but also to realize that any contribution we may make will be doubled by the anonymous donor.

Advice has been received from his daughter, Mrs. M. H. Schneider, 583 Lincoln Street, Cedarhurst, N. Y., of the death on July 2, 1954, of George Franklin Hatch.



He was at one time with the E. A. Strout Realty Agency, Inc., 84 S. High Street, Bridgton, Maine. It is hoped that further data as to his activities will appear in a later issue of *The Review*.

The following changes in address have been received: Ireneé DuPont, 9028 DuPont Building, Wilmington, Del.; Dr. Mary L. Foster, P.O. Box 157, East Brewster, Mass.; Charles L. Hammond, 226 Clifton Street, Malden, Mass.

Your Secretary Pro-tem attended the October luncheon of the M.I.T. Boston Lunch Club. A representative group of about 70 was present. These monthly luncheons are held in the Old Oyster House on Union Street. The speaker was Walter W. Rostow, Professor of Economic History at M.I.T., on the subject of Red China. As he has a book in the process of publication and since he was a member of an Advisory Committee to the Administration on our Asian Policy, he requested that there be no publicity regarding his remarks at that time. It was clear that he had made a prolonged study of his subject and allied problems both political and economic. After a short discourse he answered many questions which proved to be of real interest to the group. Incidentally, he outlined in a general way an economic policy toward other Asian countries which if adopted by the Western Powers would in his opinion do much toward improving their relationship with Red China. — JOHN P. ILSLEY, *Secretary Pro-tem*, 26 Columbine Road, Milton 87, Mass.

## • 1898 •

The Fiftieth Anniversary of the establishment of "Babson's Reports" was celebrated in a two day Business Conference at Wellesley Hills, Mass. on November 5-6, 1954. This was featured in the Boston Sunday *Herald* of November 7. Above the article in the *Herald* was a picture of Roger in a group with the following caption: "50th Anniversary of 'Babson's Reports' was celebrated at a special conference yesterday. Among notables present were, left to right, E. F. W. Alexander, General Electric engineer; Miss Margaret Clapp, president of Wellesley College; and Roger W. Babson." Mrs. Ivy Baker Priest, treasurer of the United States, tho' not in the group picture, was a principal speaker at the conference. Of great interest to '98 was an address by George M. Rideout, vice-president of "Babson's Reports" which was specially reported in the Boston *Herald* of November 6, as follows:

"Rideout Sees Business Tide Reversed in '55. Nineteen-fifty-five will be a better financial year than 1954. That is the word of George M. Rideout, internationally recognized economic expert and vice-president of Babson's Reports. Rideout made his prediction yesterday before a capacity group of Babson clients at the 50th Anniversary Conference of the Organization in Wellesley Hills. Rideout said the trend of business in the coming year will be almost exactly the reverse of 1954. Whereas the year drawing to a close opened with an economic downside and had been preceded by a business contraction, 1955 promises to begin with a rise following a 'rather strong upturn' during the closing months of 1954."

Members of '98 will remember that on the occasion of the 55th Reunion, Mr. Rideout presided at the technical session at Babson Park; and these predictions by this competent observer are of great significance.

We have received the following interesting letter: "The December Review Notes gave some data on a few classmates who have recently made extensive trips over the United States and in Europe. Here is some information on others who have had trips which were also interesting. Gorham P. Stevens writes that he is spending the summer on the Greek Island of Aigina in the Aegean Sea. The Island is dotted over with ancient remains. One of the early Roman Emperors spent two summers there, so it has evidences of history for probably at least two thousand years. He also mentioned fresh fish of several kinds. It is interesting to note how big a factor fish is all around the Mediterranean. To the traveler it is always a pleasant meal, and unexpectedly so in places located many miles in the interior of some countries. With very few exceptions any meat served ashore is unsatisfactory."

John S. Bleecker has a total of over 20 children and grandchildren, located in different parts of the country. This seemingly necessitates visiting each year a different section of the country. So this summer Jack and his wife covered the territory of Charlottesville, Va.; Knoxville, Tenn.; Asheville, N. C. Lyman F. Hewins and his wife spent the usual three winter months in Florida. They returned to Washington, D.C., via Galveston, Texas to visit their son; then to Montgomery, Ala., to see their daughter and grandson. Until his retirement, he was for many years connected with the U.S. Navy Department, in their experimental station working on designs of ship forms and in charge of testing models of all kinds in their immense towing tank. As noted in our several past Class Year Books, his hobby was 'yachting'. Lyman has a 'boat,' as he calls it (a 60 footer) in which he cruises. Recently the Capital Yacht Club, Washington, D.C., gave a testimonial dinner to their older members and presented them with a gold life membership card. Lyman indicated that this was most pleasing to him, but actually said "It was not a technological honor but an acknowledgment of club activities for 50 years or more." So here is another instance of "fifty years or more."

Ernest Woelfel had the interesting trip to Alaska; in other words, Juneau, Skagway, Whitehorse, Dawson, Fairbanks, Anchorage, a sort of around the circle trip; a most interesting tour in a fascinating part of the United States. So we evidently have our classmates visiting and seeing many localities.

Turn to page 516 of the July, 1954 Technology Review and note in the advertisement of the Lombard Governor Corporation of Ashland, Mass., the name of our classmate, I. B. Dodge, Governor Engineer. Another 50 or more. Congratulations, Irving!

Members of '98 through the activities of our industrious presidents have received recently a roster of the Class of '98 M.I.T.

Addresses as of September 1, 1954. Dan and 13 grandchildren. He goes on to say:

compiled the list, and Lester arranged for the mimeographing. We wish to thank them, in the name of the Class, for this great service.

Since the mailing of the list, there are some changes to report. Two classmates have passed within the Unseen Temple: John H. Larrabee in March, 1954; and Horace R. Thayer, Sept. 25, 1954. We have no further information concerning John Larrabee. Readers of *The Review* will remember that Horace was interested especially in M.I.T. and '98 affairs, as evidenced by a letter included in the Class Notes some years past, shortly after his retirement from active business. Changes of address are as follows: John W. Farley, c/o Herrick, Smith, Donald, Farley and Ketchum, 10 Milk Street, Boston, Mass.; Dr. Elwell F. Kimball, 71 Andover Terrace, Glen Rock, N. J.; Dr. Dorothy R. Mendenhall, 140 N. Prospect Avenue, Madison, Wis.; Ralph W. Rumary, P.O. Box 243, Short Hills, N. J.; Edward C. Sherman, 1002 Pennsylvania Avenue, Tyronne, Pa.; John E. Warren, c/o W. C. Fletcher, Columbia, Conn. Kindly make the necessary corrections. — EDWARD S. CHAPIN, *Secretary*, 463 Commercial Street, Boston 13, Mass. ELLIOT R. BARKER, *Assistant Secretary*, 20 Lombard Road, Arlington, Mass.

## • 1899 •

Some of you fellows undoubtedly listen to "Double or Nothing" on T.V. or radio. Here is a chance to play the game right in your home. An anonymous donor has offered to match every Alumni Fund subscription for 1955. You have already received a letter from your Alumni Fund Secretary telling you that every subscription received this year goes toward the construction of the Karl T. Compton Memorial Laboratories for Nuclear Science and Electronics. Could you possibly honor the memory of any man who has done more for his country and M.I.T. Give as generously as you can for there is also more than an even chance that your dollars given now might result in discoveries that would save these United States in case of an attack by an aggressor.

Your Class Secretary has just returned from a three week sojourn in the Memorial Hospital in Albany, N. Y., where they once more attempted to cut him down to size. However, as you may judge from these notes, he is now back on the job and incidentally feeling quite fit again. The above is his alibi for not having more details regarding the following regrettable announcement: Timothy C. O'Hearn, X, 100 Cushing Street, Hingham, Mass. but for many years a resident of Cambridge, died October 12, 1954, according to a notice from the Alumni Secretary's office. Tim was one of those present at the 55th Class Reunion. — BURT R. RICKARDS, *Secretary*, 381 State Street, Albany, N. Y. MILES S. RICHMOND, *Assistant Secretary*, 1793 Beacon Street, Brookline 6, Mass.

## • 1900 •

Arthur B. White wrote from Riverside, Calif., last June in answer to our inquiry whether he could attend the reunion. He stated that he has five sons, one daughter and 13 grandchildren. He goes on to say:

"In answer to your 'please' above, I will try to comply. First let me say that I should attend your yearly meetings, if I only lived within striking distance. I enjoyed very much the 50-year get-together at Cotuit four years ago; but 3000 miles is quite a trip each year even in this fast moving age. And as an added excuse this year I am celebrating my fiftieth wedding anniversary on June 15 with an entire family get-together here in California. As I look back on my life, I feel that I have accomplished very little of note. I have written no books, made no inventions, and have lived the ordinary hum-drum life of a large-family man. The first 10 years after graduation was in different engineering projects, mostly (since 1903) in California. Since about 1910 I have put most of my time and interest into ranching and city business properties, and have had no connection with engineering except in my own work. At the present time I am turning over ranching properties to one of my sons, but expect to keep in close touch with the other things for some time yet. During my engineering years I belonged to local engineering societies as well as the A.S.C.E., but later dropped all those connections. I am a long standing member of the Congregational Church here in Riverside, but I must confess, a very poor member.

"My children are as follows: Henry Cummings White, born 1906. No college but following ranching. Married but no children. Laurence Adams White. Annapolis graduate 1933. Now Navy Captain located at the Pentagon. Married with two sons, the older at present attending Naval Academy at Annapolis. Arthur B. White, Jr., Business School graduate now operating hardware and general store at Balboa, Calif. Married with three sons. Jane Amsden White (Mrs. Don E. Clark) formerly teacher, now a housewife. Graduate U. California, Santa Barbara, about 1930. Her husband is the Buick agent at Pomona, Cal. They have one boy and two girls. David L. White, also graduate U. of Cal., Santa Barbara, two years later than Jane. Married with three girls. He is a teacher of Speech Correction for Los Angeles County. Robert W. White, graduate of West Point, 1947. Now an Army Captain in the Air Corps stationed at present at Albuquerque. Married and has two girls. During World War II all my sons and my son-in-law were in the service and very fortunately not one received a scratch.

"My only hobby is playing duplicate bridge. I helped organize our Riverside Club, play two or three times a week and attend many of the tournaments in our Western Division of the American Contract Bridge League. I have been local treasurer and secretary since it was organized. I wish to send greetings and best wishes to all of those fortunate enough to attend this reunion and regret that I am not able to be there." Notice — This is the year when we observe our 55th anniversary. We expect that this will include a few days of reunion at the Pines in Cotuit. Complete details of this will be given you in due course. This preliminary notice is given so that any who may be planning a visit to this vicinity next summer may plan to come at re-

union time. The notice given above is at the request of Percy Ziegler who has been appointed Reunion Chairman. This is a very important reunion and could be made even more memorable than our fiftieth if all who can come will do so. — **ELBERT G. ALLEN, Secretary**, 11 Richfield Road, West Newton 65, Mass.

## • 1901 •

I regret to report the death of Charles Miller Culp in Seattle, Wash., on October 12, 1954. Mr. Culp died in a hospital after several months illness. He was born in Nokomis, Ill. He was graduated from De Pauw University, and later attended M.I.T. as a member of the Class of 1901. In 1904 he moved to Walla Walla where he was associated in a family bank until coming to Seattle. He was a member of the Washington Society of Certified Public Accountants, Delta Upsilon Fraternity and the Central Lutheran Church. He is survived by a sister, five nieces and nephews.

A letter from Bob Williams states that he is still living with his daughter in Connecticut but has no particular news to offer. Roland Simonds, from Winchester, who retired in 1949, writes: "In addition to working in my yard and garden and around the house, I am busy with many outside interests. Am Captain in the Winchester Auxiliary Fire Department and last November took a two weeks course in Civil Defense Rescue School in Maryland. Have a certificate qualifying me as instructor in rescue work. Spend considerable time in church work. Treasurer of the organ fund and of the Couples Club. Trustee of the Order of Eastern Star and make coffee at most of the church and Eastern Star functions. Still keep in touch with my previous Fire Protection Engineering work and continue to advise citizens of the town regarding fire protection problems. Red Cross also uses part of my time. I have only one paid job, that of taking the street census of Winchester which requires about four months work mainly in the winter. Last spring I took a five weeks trip to Florida with my wife, having a wonderful time." This completes all my information from last year's Class Letter replies.

E. H. Pendleton wrote me in the fall that he made a trip to Damascus, Va., to visit his son who is mining in that vicinity. He tried to see Austin Hyde who lives in that town but was unsuccessful. He also states that he has two great grandsons. I recently noted in a Boston paper that our classmate, William Aldrich, has just been reelected Chairman of the Directors of Northeastern Conservatory of Music. I have information that Warren Bickford is at this time (November) confined to a hospital in Pocasset, Mass. He celebrated his birthday on November 12. I sent him a letter offering the sympathy of the Class for his illness and their congratulations and best birthday wishes.

Our genial member, Ted Davis, has, as you now know, taken on the office of Class Agent formerly held by Al Higgins. As the Alumni Fund this year is to go toward the Compton Memorial, it behooves our Class to do its share. If each one receiving Ted Davis' letter will contribute something, the result will show

that we are loyal members of the Alumni Association and are doing our part to honor the memory of Karl Compton. We also learn that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund. Again this year The Review will be sent to all members of the Class whether or not they contribute to the Alumni Fund. However, to keep your conscience clear why not help out even if it seems very small to you.

The answers to my questionnaire concerning our 55th reunion are so varied that it is not going to be easy to work out the best solution. We hope to have something to report at a later date. There will be no 1901 Class Notes in the February Review, but I hope that you will receive the Annual Class Letter sometime during that month. — **THEODORE H. TAFT, Secretary**, Box 124, East Jaffrey, N.H. **WILLARD W. Dow, Assistant Secretary**, 287 Oakland Street, Wellesley Hills 82, Mass.

## • 1902 •

Last August Steve Gardner completed 50 years of continuous employment with the Electric Boat Company and the company house organ, *The Scope*, gave him a very interesting write-up from which the following is taken. Gardner started with the company as draftsman working on drawings of the Octopus and Cuttlefish class submarines then under construction. In Gardner's own words, "I started on design work at New Suffolk but along about Thanksgiving we packed up and moved to Bayonne, N. J. We had a few rooms at the Electric Launch Company, and I worked in the drawing room, doing calculations and weights. In May, 1906, we moved to the Fore River Shipyard at Quincy, Mass. In those days EB didn't build subs; we just did the design and sub-contracted the actual construction. About 53 of our boats were built at Fore River.

"About 1908 I became a little tired of the drawing rooms and asked for a change. I was put to work in the shipyard for about a year and then sent to the West Coast as assistant to EB's representative out there. We were building boats at the Seattle Ship and Dry Dock Construction Company and at San Francisco's Union Iron Works. I spent all my time in Seattle where I was married. In fact, my only child, a daughter, was born there. After two years on the Coast I came back to Groton, where EB has finally located. Less than a year later I went to St. Petersburg, Russia, where EB was assembling submarines for the Czar's navy.

"I came back to the states and took charge of our operations at Fore River. Lawrence Spear, late president of EB told me at the time 'Gardner, you've been around so much I'm going to give you a chance to sit down.' I sat at Quincy for 12 years. We were pretty busy up there, though. During the war we built over 30 submarines for the United States and I don't know how many for the Allies."

In 1925 Gardner returned to Groton to assist in construction of four submarines for the Republic of Peru. In the period between 1925 and 1933 the United States built no submarines by contract. In 1933, the Navy began building submarines



again and the renewed activity at the Electric Boat found Gardner in the important post of plant engineer. The real test for both EB and Gardner as World War II approached and the need for submarines became evident. Under his direction, EB increased its building ways from three to 22, including construction of the South Yard and Victory Yard. Without these added facilities, EB would never have achieved its wartime production records. Gardner says he looks back on that job as one of the high points of his career. As to the future he says, "I intend to stay with Electric Boat as long as they will put up with me." — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

## • 1903 •

Notice has been received from the Alumni Register of the death of Carl J. Schriftgiesser, formerly head of the Schriftgiesser Publishing Co. in Boston, Mass., in August, 1952. No further details are available. The Boston *Herald* of November 12 records the death of Harold N. Cross in Haverhill, Mass., on November 11, 1954. Quoting from *The Herald*: "He was Haverhill's city engineer from 1910 to 1912; chief engineer in charge of construction of the first tunnel under the Hudson River, and chief engineer in charge of the Yellowstone River Irrigation Project, Montana, in 1914 and 1915. He retired from his position as an engineer with the Factory Mutual Insurance Company in 1950," (after being with that Company 35 years). He was a native of Ipswich, coming to the Institute from Phillips Exeter Academy. Aside from his position as an engineer he was for many years financial secretary of the First Baptist Church in Haverhill and was a member of Sticket Lodge, A.F.&A.M., the Arts and Crafts Society of Derry, N. H., and the American Society of Civil Engineers. He leaves his wife, the former Daisie Haines, and two daughters.

The Alumni Association calls our attention to the following announcements: First, the 1955 Alumni Fund is to be entirely devoted to a memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics, and we are further informed that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund. The Class is especially urged to make its contribution as generous as possible. For the information of those who live in the Southwest or who may be traveling in that region, there will be an all day M.I.T. Southwestern Regional Conference in Dallas, Texas, at the Hotel Adolphus on Saturday, January 29, 1955. The speakers will be: President Killian, Walter G. Whitman '17, and C. Stark Draper '26, respectively heads of the Departments of Chemical Engineering and Aeronautical Engineering. Further information may be supplied by Mr. E. O. Vetter, Geophysical Service, Inc., 5900 Lemmon Avenue, Dallas, Texas. — FREDERIC A. EUSTIS, *Secretary*, 131 State Street, Boston, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, Box 103, South Wellfleet, Mass.

## • 1904 •

These notes are being written on November 9, 1954. I make a point of record-

ing this date because by the time you read them in January they may be so old that they will seem antiquated and worthless.

All my appeals for assistance made in last winter's issue have produced no lasting results. The only letter I remember having was from Joe Haraden, who conducts the Mohawk Chevrolet Company in Schenectady, New York in which he complained that the automobile business was none too good. He invited me to come up and spend a few days with him at his place on Lake George, and enclosed a picture of the place which would seem to indicate that though the auto business is not now too good, there have been times in the past when it must have been better. You may be sure that I shall accept his invitation later on.

I suppose you all know by now that I have left Whitney Homestead in Stow, Mass. where I resided for six years from November 1948 to October 1, 1954. Our address is now 1082 Commonwealth Avenue, Boston 15, Mass., where Mrs. Stevens and I have a nice apartment and if any of you are driving down Commonwealth Avenue we hope you will stop and see us. We would be much pleased to see any of you. We are right across the Avenue from the show rooms of the Commonwealth Chevrolet Company and on October 28 when the 1955 models were first shown I went over to look at them. They looked like superior products, and if any of you are in the market for a car, Joe Haraden's address is 738-740 State Street, Schenectady 7, N. Y. I am very sure he would be very happy to fill your needs. (He doesn't know I am writing this.)

I have a couple of notes about some of our classmates which I offer for your edification. On October 30, 1954, Dr. Howard Moore was married to Miss Velma Murdock of Newton Highlands, Mass. They spent their honeymoon at Southern Pines, N. C., and as these notes are being written they have not returned, but are expected next week. In behalf of the Class I extend our hearty congratulations to them.

During the latter part of October, Harry Kendall spent some time in the Levi Heywood Memorial Hospital in Gardner undergoing an operation which many men of our age have to undergo. I talked with Mrs. Kendall yesterday (Nov. 8) and found that he recovered nicely and is now at home again and able to get out and around. We are all glad indeed that he got along so well.

Of course, I have been anxiously awaiting the arrival of the November issue of *The Review*, since I labored arightly and produced an account of our 50th Anniversary and am anxious (like any author) to see it in print but to date (November 9) it has not appeared. However I have heard from Gene Russell and Gus Munster and they have received their copies so I continue to hope. Also I have had a letter from Fred Goldthwait, Secretary of 1905, who had received his copy, had read my stuff and liked it. So I feel better.

You have all been notified that the 1955 Alumni Fund is to be entirely devoted to a Memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. And now comes word that an anonymous donor has offered

to match dollar for dollar this year's Alumni Fund. So if you have never contributed anything or much to the Fund, here is an opportunity to double your contribution in a way which will give you or your pocketbook no pain whatever. Think it over, and act accordingly.

In case any of you are traveling members of the Class or are in a certain portion of the South in January, there will be an all day M.I.T. Southwestern Regional Conference, Saturday, January 29, 1955, at the Hotel Adolphus, Dallas, Texas. There will be important speakers including President Killian, the heads of the Chemical Engineering Department and the Aeronautical Engineering Department and representatives of Electrical Engineering and Industrial Management. Further information may be obtained from E. O. Vetter, Geophysical Service, Inc., 5900 Lemmon Avenue, Dallas, Texas.

I have received a few changes in addresses which I will pass on to you. Halsey French, II, is now at North Midland Avenue, Upper Nyack, N. Y., Alpheus C. Lyons, XIII, 735 Main Street, Bangor, Maine. Calvin R. Sheafe, Course II, Route 1, Apopka, Fla. Henry S. Sherman, VI, Society for Savings, 127 Public Square, Cleveland 14, Ohio, Harold W. Sherrill, III, 38-04 150th Street, Flushing, N. Y., Emery J. Wilson, II, 3119 Falmouth Road, Shaker Heights, Cleveland, Ohio.

Bob Phinney has had to make a business trip to Brazil. Perhaps some of you remember the talk he gave at the 50th on a previous trip to the Orient. So now he is getting data for a later talk for our edification. Also Bob's son has entered M.I.T. in this latest freshman class. He called on President Hayward '04 not long ago and Carle was interested to get his reaction to the place. Needless to say, it was favorable.

Once again the grim reaper has swung his all devouring scythe of time and cut down one more of our classmates. On November 12, 1954, Arthur Hooper Langley, Course I, died very suddenly. He and Mrs. Langley had attended a card party that evening and on returning home, while preparing to retire he leaned over to remove his shoes and he did not straighten up, as death overtook him at that moment. He had had no symptoms or warning of any impending cardiac trouble and on that day had been busy attending to his usual duties. Funeral services were held in Hartford, Conn., on Monday, November 15 and committal services and interment followed the next day in Newport, R. I.

Arthur Langley, or "Buck" as he was always known to his classmates, was born in Walden, Mass., on October 23, 1879, and prepared for Tech at Walden High School. However, while an undergraduate his home address was Providence, R. I.

Buck was one of our better known and well liked classmates. As an undergraduate he was prominent in athletics, particularly in baseball and tennis in which sport he attained the big "T." Also he was well known for his vocal ability being possessed of a very sweet voice and he was always ready to give us a song. He was a member of the Glee Club and took part in the Tech shows "A Scientific King" and "Simon Pure Brass."



For many years in later life he was connected with the State of Connecticut with the Board which laid out, designed, and built the State highways. He was then engaged in the acquisition of the Rights of Way over which these roads were built. Of course like many others of us, he had been retired from his work, and lately had been investigating G. I. loans on property. We shall all miss Buck very much as he was a faithful attendant at all our Reunions, and was prominent at our 50th, which was for most of us our last rendezvous with him and will long be remembered. *Ave atque vale, Buck requiescat in pace.*

Now classmates, I am sorry, but I have to quote again that famous actress, Ethel Barrymore, "That's all there is, there isn't any more." Perhaps there will be next time. There will be if you will only help me. As of January 1955, I hope you all had an overstuffed Thanksgiving and a very Merry Christmas and may your New Year be very happy and glad. — HENRY W. STEVENS, *Secretary*, 1082 Commonwealth Avenue, Boston 15, Mass.

### • 1906 •

When preparing the December notes it occurred to the Secretary that no obituaries were included. Unfortunately, we can not make the same comment this month and it is with regret that I report three deaths as follows: Louis L. Booth, Course II, passed away in Poughkeepsie, N. Y., on June 4, 1953. In 1913 Booth was reported as a draughtsman in Poughkeepsie and except for occasional address changes in that City we have no further information concerning him. James P. Wey, Course VI, died at Atlanta, Ga., June 18 of this year. It is the Secretary's recollection that Wey was a graduate of another college and only spent one or two years taking an electrical engineering course at Tech. His entire business career was confined to Atlanta and in the Alumni Register of 1948 he was listed as President of the Wey-Leonare Construction Company of that City. Like similar cases, where a man graduates from another college, it is assumed he confined his college associations to that institution as he never showed any interest in his 1906 affiliation. Dr. L. D. Smith passed away in Milwaukee, Wis. His death notice was received on October 20 with a statement that the exact date of his death was not given. The Secretary has had occasion to refer to Dr. Smith in this column previously and classmates who attended the 1951 Reunion will remember him very well on that occasion, when he seemed to enjoy himself thoroughly. Dr. Smith was with Course XIII at the Institute but did not graduate. Later he became an M.D. and practiced in Milwaukee. Although his Technology affiliation seemed to be confined to recent years, he enjoyed it and he will be missed from our future gatherings.

In this connection the Secretary is in receipt of a letter from Abe Sherman which read in part as follows: "The Review came in today and as the passing of Dr. L. D. Smith of Milwaukee is not mentioned I do not know whether you heard of it too late or not at all. Some three or four weeks ago, one of our local papers

carried the notice and I am sorry I did not think to cut out the piece for you. It seems he was a Rochester boy when going to Tech. I wish I could help you out occasionally with something for our class news but we lead such a quiet and leisurely existence that I don't expect anything worthwhile. Our time is spent around the place here, taking short trips and following antique auctions. We have a house full now so seldom bid in anything; but it is great for observing human nature. Incidentally we find that most of the 'antiques' around here would be 'mid-Victorian' in New England. Generally, we are enjoying pretty good health. We have made arrangements to spend January, February and March in Sarasota again on Longboat Key, Address Route 5, Box 2086, Sarasota. Would be delighted to see any classmates that might be up that way."

Referring to Florida, the Secretary would state that a telephone call to Ralph Patch results in the news that he is starting for Florida the day after Thanksgiving to spend some time in Winter Park and later to go down to Fort Myer. Ralph is enjoying very good health with the exception of impaired eyesight which limits his activities.

From time to time in this column we have had occasion to refer to the Alumni Fund. Classmates who have received the report of the Fund for the last year were gratified to note that our per cent of Class contributing was about in the range of our neighboring classes but that our average gift is lower, therefore the total amount does not compare very favorably with 1905 and 1907. We are particularly interested in the Fund at this time because gifts to the Fund for the current year have special significance in two ways: the first, any '06 gifts can be designated as to be counted in our Fiftieth Anniversary Gift and, furthermore, this year's Fund is to be entirely devoted to a memorial to Dr. Compton, which will be known as the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. Also, every dollar given to the 1955 Compton Fund will be matched, dollar for dollar, by an anonymous donor. With these special inducements for our 1955 giving, it is hoped that classmates will contribute generously to the Alumni Fund this year. Your Secretary is not trying to steal the thunder of Vice-president and Class Agent Sherman Chase, who is doing a fine job as Class Agent, but it is difficult to resist the temptation to include an appeal in this column.

Classmates who live in the Southwest will be interested to know there will be an all-day M.I.T. Southwestern Regional Conference, Saturday, January 29, 1955, in Dallas, Texas, at the Hotel Adolphus. Speakers from Cambridge: President Kilian; Walter G. Whitman '17, and C. Stark Draper '26. Heads of the Departments of Chemical Engineering and Aeronautical Engineering, respectively; John G. Trump '53, Professor of Electrical Engineering and Douglas M. McGregor of Industrial Management. Requests for further information should be directed to Mr. E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas. — JAMES W. KIDDER, *Secretary*, 215 Crosby

Street, Arlington 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills 82, Mass.

### • 1907 •

Through cards and letters I have learned of some traveling done by classmates during recent months. A card dated October 20 from John Frank from Seville, Spain, stated that he and his wife were celebrating their fortieth wedding anniversary in that place. They had been touring Portugal and Spain and expected to be home in mid-November. Hud Hastings wrote of a wonderful seven weeks trip that he and his wife had through Yellowstone and Glacier National Parks, Warrenton Lakes, Banff, Lake Louise and Jasper in Canada, back to the United States to Portland, Oregon, Crater Lake, San Francisco, Yosemite, and Grand Canyon.

Floyd A. Naramore, 605 Spring Street, Seattle, Wash., of the architectural firm, Naramore, Bain, Brady and Johanson, wrote me on November 4 as follows: "Your postal card regarding the 48-year Reunion of the Class of 1907 brought up pleasant memories of the 40th Reunion, which I attended, and the loss I sustained in not being able to be present at the 45th. For remarks of interest regarding myself and other classmates, I regret I have no news of other classmates that you have not had printed in The Review. Outside of the field of architecture, my own activities have been mostly vagabonding in foreign countries for several months each year of the last seven years. I was in Boston for an hour early one morning last June, 1954, too late for any Tech affairs, on my return from a five months' tour around the world by air. The principal places visited were: Honolulu, Japan, Hongkong, Macau, Bangkok, Angkor Wat, India, Vale of Kashmir, Karachi, Bagdad, Damascus, Lebanon, Turkey, Greece, Italy, Spain. Last year I traveled by air to Lisbon and Johannesburg; by railway to Capetown; by automobile for 8,000 miles along the East Coast to Durban, North to the Belgian Congo, Uganda, Kenya and to Nairobi; by air to Zanzibar, Ethiopia, Egypt, the Holy Land, Italy, Switzerland, Norway, the four Scandinavian countries, and Ireland. This vagabonding is made possible by the generosity of my partners or their desire to enjoy my absence. 'No dependents' also makes it possible for me to enjoy travel. I am contemplating a second journey around Central and South America this winter and if, on my return, I am near Boston about June 10, 1955, I shall go to the Reunion."

Harold G. Brown, associated with our Class in the course in chemistry, died on December 24, 1953. He lived in Oxford, Mass. I have no information regarding his career or family.

I quote from a letter dated October 20, 1954, received from Ed Marsh, professionally, Edward Harvey Marsh, M.D., 18 Skywood Road, Chappaqua, N.Y. "My health is not so good. I think I told you some time ago that in 1946 I was retired from the Army for physical disability, service incurred. I went back to my old job in the Westchester County (N.Y.) Health Department but finally

had to retire in 1952. Going upstairs got to be too much of a task, so this past spring we purchased a lot in Chappaqua and built a small ranch type house with everything on one floor. The site is a beautiful one, high up on a ridge, with miles of view both east and west. Our son, who is a reserve lieutenant in the Navy Civil Engineers Corps, is now in Korea in the C.B.'s, and our daughter, who graduated in 1952 from Sweet Briar College, Va., is employed in a very 'hush hush' job in the Defense Department in Washington. She isn't even allowed to tell us what she does. You say you have seven grandchildren. We expect our first sometime this month. (A grandson was born on October 30, B.N.) Tempus sure does fugit. Here it is now 51 years since Macomber as captain, you as first lieutenant, and I as second lieutenant used to execute 'platoons right,' and so on, on the old armory floor in Boston."

Here are a few recently acquired addresses of men whose names are not included in my class mailing list. You may remember some of these classmates: Paul Frederick, Course VI, 508 Osborne Lane, Sewickley, Pa. Ralph J. Karch, Course II, Fort Myers Beach, Florida. Edward D. Kingman, Course XIII, Nassau, Bahama, B.W.I. Emory S. Land, XIII A, General Dynamic Corporation, 1001 Connecticut Avenue, N. W. Washington, D. C. Robert Tappan, Course IV, 68-64 Yellowstone Boulevard, Forest Hills, New York. Other new addresses for men on our mailing list: Albert L. Burwell, 610 North Crawford Avenue, Norman, Oklahoma. Chester M. Butler, 256 Kilmer Street, LaSalle, Illinois. J. Ernest Moore, 2 Rector Street, Room 2000, New York 6, N. Y. Frederick T. Moses, Firemen's Mutual Insurance Company, 150 South Main Street, Providence, R. I. Samuel R. T. Very, 4137 North 1st Avenue, Tucson, Arizona. Edwin Bonta, 63 Sunset Avenue, Montclair, N. J. Charles M. Hutchins has moved from Duxbury, Mass., to 23 Amherst Road, Port Washington, Long Island, N. Y. He writes that he has been out of circulation for the past ten years due to arthritis. Harold C. Libby, 1614 Dilworth Road East, Charlotte, N. C., also says that arthritis prevents his doing any traveling. He will retire from service with Southern Railway on May 1, 1955, after working with that company for forty-seven years. Donald E. Russ, 110 Pleasant St., Wakefield, Mass., has been retired from active business since 1948. He was manager of a coal concern for many years. He says that he is in good health. George W. (Bill) Otis of 17 Hickory Drive, Maplewood, N. J., writes that he is now completely retired, having sold his control of American Blue Stone Company in January of 1954. Warren I. Keeler, 42 Nathan Hale Street, New London, Conn., who has been treasurer of Keeler's Paint Works in New London for many years, retired from active business during 1954.

On November 9, I talked on telephone with Mrs. Alexander Macomber, wife of our Class President, at Mac's home, 317 Marlborough Street, Boston. She told me that Mac was gradually improving, regaining the use of his legs. His mind was as alert as it ever was. He could read and write to some extent, but he could not

talk too readily. He was able to see visitors. The Macomber summer place is in Temple, N. H., not in Peterborough, as I stated in the November class notes. Mrs. Macomber told me that Major (U. S. A. retired) Lawrence T. Walker and his wife live in Temple all the year round.

As of November 15 I had received 104 replies to the 174 cards which I mailed in October to you men regarding our 48-year reunion at Oyster Harbors, Mass., June 10-12, 1955. Twenty-seven men stated that they definitely plan to attend this reunion, and 24 others said that they "hope" to be present. It seems evident that we shall have a good actual attendance. By early May you'll be receiving from me definite announcements of details with registration slips.

We have tremendous incentive to contribute generously to the 1955 Alumni Fund. For one thing, the entire fund is to be devoted to the Karl Taylor Compton Laboratories for Nuclear Science and Electronics, as a memorial to Dr. Compton. Then, early in November, came the news that an anonymous donor has offered to match dollar for dollar the amount given by the Alumni. Let's do our part to make 1907's gifts outstandingly large.

James A. McElroy died on October 4, 1954. He received an A.B. degree from Georgetown University, Washington, D. C., in 1902 and his degree in civil engineering with our Class. During the early part of his professional career he was a division engineer for the Highway Department of the State of Connecticut. From 1918 to 1930 he was city engineer for the City of Bridgeport, Conn., then engaged in private practice for several years, and in 1937 was appointed chief civil engineer for the Connecticut Department of Public Works, having charge of all building construction for the state, except highways. Since 1941 he also served as a member of the Connecticut State Board of Registration for Professional Engineers and Land Surveyors. As far as I know, he was occupying these positions at the time of his death, although I have not heard from him since November of 1948. He was married and had a son and two daughters. Whether or not they survive him, I do not know; neither am I sure of his home address at the time of his death.

A few more up-to-date addresses of men whose names are not on our mailing list: Bradford W. Drake, Course II, 225 Prospect Street, Stoughton, Mass. Harry R. Draper, Course I, 32 Washington Street, Ayer, Mass. Frank W. Poland, P. O. Box 604, Marion, Mass. James R. Vedder, 131 Robineau Road, Syracuse 4, N. Y.

Eight of our faithful classmates spent three enjoyable hours together on November 12 at the M.I.T. Faculty Club at Cambridge. Dick Ashenden, George Crane, Bill Egan, Tom Gould, Harry Moody, Bryant Nichols, Bob Rand, and Phil Walker partook of one of the delicious meals provided by the Club management, after which I gave some information relating to some of our classmates, our reunion of next June, and the Alumni Fund. Our speaker for the evening was John R. Sanderson, who is assistant advertising agent at Whitin Machine Works,

largest manufacturers of textile machinery in the United States, where Phil Walker and I are also employed, and also associate editor of the *Whitin Review*, a company technical publication that is distributed to approximately 10,000 textile mills and affiliated industries every other month. Using as his topic, "The Romance of the Textile Industry," John told most interestingly of the preparation of cotton from the time it is taken from the bale until it is made into thread, ready for weaving. He showed various samples of the yarn in process and also some woven cotton fabrics. He told something of the manifold manufacturing problems which exist in the industry, making it plain that while cotton has been spun and made into cloth for centuries, there is still ample opportunity for research in improving the processes involved. It was a fine meeting. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

## • 1908 •

The first dinner-meeting of the 1954-1955 season was held at the M.I.T. Faculty Club, Cambridge, Mass., on Tuesday, November 16, 1954, at 6 P.M., with the following on deck: Bill Booth, Nick Carter, Myron Davis, Leslie Ellis, Sam Hatch, Winch Heath, Bill Hunter, Steve Lyon, Linc Mayo and Joe Wattles.

We met in the Cocktail Lounge as the fellows arrived and there was plenty of talk about summer activities. It's much more comfortable in the Cocktail Lounge since they have provided man-sized tables and Tech armchairs. Following suitable libations, we adjourned to our private dining room for the usual excellent dinner, with plenty of butter and rolls for Steve and extra coffee for Bill Booth. Bill Hunter brought up the question of what we were doing in connection with a Class Gift to the Institute on our 50th in 1958. Harold Osborne had written George Belcher on the same subject on November 1, suggesting a committee to handle the matter. It was agreed by all present that a start should be made right away and that Harold Osborne be chairman of a committee to raise funds for our Class Gift. It was suggested that Bill Given and Jim McGowen be on such a committee, but that the makeup of the committee should be up to the chairman. After dinner Joe Wattles entertained with some beautiful Kodachromes taken during his visit to Hawaii last May. Joe and Mrs. Wattles sailed from Los Angeles and toured the Islands by airplane and auto. To wind up the show, Joe had some fine records of Hawaiian singing with ukulele accompaniment. Joe plans to show us, at later meetings, Kodachromes of his visit to Seattle for the meeting of Rotary International which he and Mrs. Wattles attended following their sojourn in Hawaii. The following letter from Harold Griswold to George Belcher will be of interest:

"I am reminded that now is the time for all loyal 1908 men to come to the aid of the Alumni Fund — so am enclosing check for \$50 same as last year. It was a disappointment to me to have to miss our 45th reunion but it was just one of



those things... a sudden illness in the family the day before made it necessary to cancel. I hope for better luck when our 50th rolls around. In the meantime, I may make one of the Boston luncheons this winter — usually get to Boston once a month. When and where do they take place? How goes it with you in retirement? I am rounding out my eighth year on the pension roll — and seem to thrive on it. Of course, I do whatever consulting work on water supply that comes my way and so keep my hand in practice, but have plenty of time to do other things also. Saw Harry Rapelye at the 50th reunion of our high school class last June and had a nice visit with him. He is partially retired, but still does quite a bit too of traveling. Best regards, and next time I visit the Cape will drop in and surprise you. Sincerely, Harold."

The Boston *Herald* of October 29, 1954, reported the death of Stiles Kedy. Funeral services were held at Park Street Church, Boston, where Stiles had long been active. We will certainly miss Stiles at our bi-monthly meetings and reunions. We have just learned of the death of Freeman Towle on January 8, 1950, at his home in Hornell, N. Y.

The second dinner-meeting of the 1954-1955 season will be held at the M.I.T. Faculty Club, Cambridge, on Wednesday, January 12, 1955 at 6 P.M. Usual notices will be mailed, but make your plans now to attend. If you can't make it, at least return the reply post card. How about sending in some news? — H. LESTON CARTER, *Secretary*, 14 Roslyn Road, Waban 68, Mass. LINCOLN MAYO, *Treasurer*, 47 Alton Place, Brookline 46, Mass.

## • 1909 •

We are continuing the policy suggested by The Review Editor that, when there are considerably more fall class notes than normal, they be spread over subsequent issues. Just prior to the Reunion we received the following from Steve, X, (Joseph N. Stephenson) who has been keeping us informed of the progress of the book on the manufacture of paper of which he is editor. "I regret very much that it will not be possible for me to be with you fellows at our forty-fifth reunion. As a token of my good intentions, however, I am enclosing a contribution to our Class Fund. The fourth and last volume of *Pulp and Paper Manufacture*, fourth edition, is well on the way. Sixty galleys in hand and more coming fast. Since Volume One appeared in 1951, the sale of Volumes One, Two and Three has been most satisfactory. With best wishes for good weather, a good time and my kindest regards to the Naughty-Nine Gang." (Steve's contribution went to the Institute and was credited to the Class of 1909 Scholarship Fund.)

Last June at the time of the reunion, Johnny Davis, II, received the following letter from Reg Millard, II: "I just received your air mail letter yesterday. It had been marked 'not known' at the old address and finally found its way up here. We moved two years ago, built a new home up here on the edge of the mountains with a 20-mile view of the peaks and plenty of room and lots of trees. It was nearer to our children and the now five

grandchildren ranging from seven years to three months old. I seldom go over to Vancouver across the harbour. My partner died a year ago and his son-in-law, a fine chap, is carrying on and the phone is right handy. I would like like the devil to see some of the old crowd again. I keep reading references to M.I.T. and the great work it is doing and know that the present setup must be quite different from the old days, Rogers Building and Huntington Avenue. Yes, I sure still remember with a great deal of affection old Getty, Professor Lanza, and his sitting on the floor in the Mechanical Lab near the Olsen Testing Machine drawing chalk sketches on the floor while we were testing beams for our thesis.

"You know those days at Tech linger much more clearly in my memory than many things that have since happened and the people that I have since met. During World War II, I was in the Canadian Navy Research and Development and met many M.I.T. men when on my numerous trips to Washington, but none of the old crowd, just the younger generation. During World War I, I met several. I was then Chairman of the U. S. Trench Mortar Committee and bumped into Brad Dewey several times in his Chemical Warfare setup. I would like to see how you, Howard Fisher, Wallis, and all the rest look now. I hope that they are not as you suggest all limping when they walk. I hope that they and you are all fat and prosperous. I haven't put on a pound and so far am far from limping but sure feel my age when I look at the bald spot and the grandchildren say 'grandpa.' I am afraid that I haven't any oil stock to sell; keeping it tight. Texaco Oil began drilling 400 ft. from some acreage we have held since before the war. Ours is not for sale or deal until we see what they bring in. It has been a quite full life and an interesting one. The main regret is that the best friendships and closest ties made in youth and early manhood drift away. Perhaps the fact that one so often looks back at them now is, as they say, a sure sign of old age creeping up. I would appreciate some time when you have a moment to spare hearing any news that you may have of any of my old friends and classmates. Meantime the very best to you, John, and to any you may see down there."

Johnny answered, apparently describing the reunion, and Reg replied asking for more news about his classmates, particularly Harry Whitaker, who visited him years ago in Meriden, Conn.; Molly Scharff; Phil Young; Skipper Weeks; Jim Critchett; Art Shaw, who used to write to him; Horace Clark; Craig Ferguson; "and Tom Desmond, who spent his last year at our house, SAE." In both of his letters Reg expresses loneliness so far as his contact with his Class is concerned and would be more than pleased to hear from any of us. His address is 4375 Lynn Valley Road, North Vancouver, B. C., Canada.

Herb Stiebel, III, who was a member of the Class Relay Team and the Mandolin Club, also wrote to Johnny: "Needless to say, it was a pleasure to hear from you and hope you thoroughly enjoyed our forty-fifth reunion at Chatham. Of course,

a notice of this was received and thrown away after reading, so did not remember the date. Would gladly have sent a wire otherwise. If able, in other words, still in this world, will attend the fiftieth for sure — optimist, no? Contact with any Tech doings have been very slight due chiefly to my non-technical life after the first 10 years spent in the mining game — a very interesting occupation but tough living conditions for a married man with two girls. (Three years in Butte, Montana, with a lot of 40 degrees below weather proved that.) Enlisted from Butte and after discharge picked up the family in Salem, Ore., to go to Arizona via Los Angeles. That was as close as I got to Arizona for I bought a service station which proved to be a gold mine.

"After six years, retired and settled on a tennis court for two years where a close friend prevailed upon me to work for him in the Engineering Department of the Travelers Insurance Company, an interesting but very easy job, 27 years before retiring September 1, 1952. Since then have hardly had time to brush my teeth. A good part of this time has been spent traveling — the Hawaiian Islands, Mexico, and two eastern trips, the latter chiefly to visit my sister at her summer camp at Lake Winnepesaukee. Do you remember Harold Sharp? He and I were practically brothers for 50 years. He died two years ago. You have had your share of sickness but it's nice to know that you have recovered so well. So keep it up and remember we have a date in 1959. Built this home (anticipating retirement) and just love the roar of the Pacific. Fortunately, I have hobbies, golf and bridge chiefly, and once in a great while make a little noise on the same mandolin acquired in 1905. It has traveled many miles and I even hocked it once. See where you live close to my sister — 152 Russell Avenue, Watertown. Assure you that on my next trip will manage to say hello."

We have received a most interesting letter from A. B. Morrill, telling about his experiences as civil and sanitary engineer in Caracas, Venezuela, and particularly about his interest in a plan to keep salt water out of Lake Maracaibo. Apparently the outlook for the eventual success of such a plan is good, and if it can be accomplished it will be a tremendous contribution to the resources of Venezuela in the fields of irrigation, municipal water supply and the supply of water for industry.

When the Secretary goes to New York on the night train, he almost always has breakfast at Stauffer's Restaurant across 42nd Street from the Grand Central. More often than not, Johnny Willard, II, strolls in and we have breakfast together. At our meeting in November, Johnny stated that he had run into Joe Richards, X, in downtown Boston. He learned that Joe, who for years had been working at forestry, had just retired. Although they have a home in Brookline, Mass., he and his wife plan to spend most of their time at their other home in Harvard, Mass. — CHESTER L. DAWES, *Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: HARVEY S. PARDEE, 549 W. Washington Street, Chicago 6, Ill. MAURICE R. SCHARFF, 366



• 1910 •

I have not heard from Dud Clapp lately but I noted in the Boston *Herald* that on September 22 Richard Dudley Naff came into this world, whose grandparents are Mr. and Mrs. Dudley Clapp of Cambridge, Mass. Abbott Allen was in to see me recently. He is retired from Stone and Webster and is now doing consulting work on power plants. His latest commission is for a power plant in Providence, R. I. Stuart Sneddon called me recently. He has just returned from an extended trip to Europe. He had the misfortune to be thrown to the deck of the ship during his return trip, was badly bruised and is just recovering. I had the pleasure of a visit from Jack Babcock recently who is arranging for our 45th Reunion next June. Dick Fernandez writes as follows: "You will be interested to know that the company that I am with has built a fine new plant in Wilmington, Mass. I suppose that you would call it a part of Operation Route 128 (according to the Greater Boston Chamber of Commerce). We will be up there by the first of the year. The company, by the way, is Raffi and Swanson, Inc. They took over the Coatings Department of the Monsanto Chemical Company a couple of years ago."

I have received the following letter from Fred Luffkin and I am sure all of us send our sincerest condolence to him. "My wife, Mabel Rogers Luffkin, passed away suddenly on October 16, 1954. We observed our 40th wedding anniversary on September 5 of this year. Mabel's general health had been reasonably good, good enough, in fact, for us to enjoy an auto trip to New England last fall. Sorry we didn't find an opportunity to get in touch with you. However, for the last two years Mabel had found it more and more difficult to get around. On the night of October 15, she broke her leg. That was bad enough but, on the following afternoon, a blood clot, which the doctor said must have formed at the break, reached her heart. I'm thankful that her departure from this mundane world to that haven of rest and peace was without long suffering or pain, thankful that she did not have to be confined to a hospital bed for several months. Incidentally, Mabel was related to the first president of M.I.T. Dr. William Barton Rogers was, I think, a great uncle of hers. The best of good wishes to you and all 1910 men." — HERBERT S. CLEVERDON, *Secretary*, 120 Tremont Street, Boston, Mass.

• 1911 •

Shades of our Mysterious Mr. Smith! What a thrill we all received first when we learned that the entire income of this year's Alumni Fund would be devoted to a memorial for the late beloved Karl Taylor Compton — then in President Hugh Ferguson's Christmas letter when we learned that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund, thus doubling our alumni contribution to the Karl Taylor Compton Laboratories for Nuclear Science and Electronics!

At an enthusiastic dinner meeting of class agents at the M.I.T. Faculty Club in late October, we pledged our efforts this year to try to double the number of alumni givers and increase the average gift by 50 per cent. We of 1911 continue to be in second place as to percentage of classmates subscribing, but our average gift can well be increased — so our task is clearcut and we must not fail.

It is with deepest regret that we must report three additional deaths in the Class: Howard R. Schulze, July; Samuel H. Scribner, I, October 1; and F. Aldrich Moore, II, October 29. Our sympathy has been expressed to and acknowledged by the widows of each.

Howard Schulze, born in Oakland, Calif., joined the architectural staff of his father, the late Henry A. Schulze upon graduation from high school and was active in the reconstruction work following the San Francisco earthquake of 1906. He took a special architectural course with us midway in our undergraduate days and was a member of Delta Upsilon Fraternity. Later he spent some time in Honolulu and then in Cuba, where in 1920 he married Teresa Long, sister of Boaz Long, then American minister, at Havana, Cuba. On their return to the U.S.A., Howard and his wife formed the firm of Schulze, Inc., in which he designed and built residences and Mrs. Schulze was in charge of interior decorating and landscaping. In 1942 he went into the Federal Housing Agency in Washington and at the time of his death was with the firm of Cross and Son in New York City. He died July 2 at their summer home in Pound Ridge, New York, and Mrs. Schulze continues in interior decorating from their New York home at 345 East 57th Street, New York 22.

Following a protracted illness, Sam Scribner, retired civil engineer on the Boston and Maine Railroad, died at Webster Hospital, Biddeford, Maine. Born in Lowell, Mass., Sam received his degree in civil engineering with us in 1911 and except for military service was continuously employed by the B. and M. until his retirement as assistant engineer of the Portland division in 1948. He and his wife, the former Dorothy H. Sweat, had made their permanent home in Dover, N. H., since 1929, with a summer home at Goose Rocks, Maine. Sam enlisted in the U. S. Army at the entrance of this country in World War I as a sergeant with Company B, 14th Engineers. This regiment was the first to land in France. He was a member of the First Parish Church (Congregational); William North lodge, A. F. and A. M. of Lowell, Mass.; Dover Post #8, American Legion; and the 14th Engineers Railway Association. He is survived by his wife; two sons, George C. of Southington, Conn., and Robert J. of Andover, Mass.; and four grandchildren.

F. Aldrich Moore, II, died suddenly in a hotel room in Laurel, Miss., of a heart attack. He had been a salesman for the Old Kentucky Manufacturing Company since 1939, making his home in Jackson, Miss. He was born and raised in Tyler, Texas, where his father founded Moore Grocery Company. While at M.I.T. Doc was active in class affairs and was a mem-

ber of Theta Delta Chi Fraternity. Survivors include his wife, Georgella Moore; his stepmother, Mrs. Rachel Morgan Moore of San Francisco; two sons, Aldrich Moore, Jr., of Houston, Texas, and William S. Moore of Decatur, Ala.; one brother, Dr. John Morgan Moore of San Francisco and two grandchildren. Like Doc a native of Tyler, Texas, Mrs. Moore has returned there and is living with her father and mother at 1104 Troup Road, Tyler, Texas.

Believe it or not, we had two elevens — 22 classmates — at the annual "Seven Come '11" Class Dinner at the M.I.T. Faculty Club in Cambridge on Saturday evening, November 6. Unfortunately there was another eleven involved — 11 classmates who have died since the 1953 affair — and we rose in tribute to their memory before the usual interesting and enlightening talk-around.

E. J. Batty, II, is still in charge of construction and maintenance for Lincoln stores; has two grandchildren and will probably retire in a couple of years. G. Arthur Brown, X, who as reported in earlier notes, came to Lowell Technological Institute this fall in charge of a new course in leather engineering, after six years in charge of a similar course at Pratt Institute, Brooklyn, New York. He and his wife are living in nearby Tyngsboro and they have a summer place near Pittsfield, Maine, for eventual retirement. Obie Clark, II, was happy in telling us his Nelson Cement Stone Company is having its next-to-best year, with production about 75 per cent now on curbstones. He is continuing to spend a lot of time with the Quincy Cooperative Bank (fourth largest in Massachusetts), where he is Vice-president.

Marshall Comstock, VI, said he and Helen had a fine long 4½-month stay in Maine, their place being on the shore near Thomaston, and they are now back in West Medford for the winter. They have six grandchildren and he is enjoying his retirement, now entering its third year, and this summer used up eight gallons of paint, he said, painting their summer home. Art Coupal, II, is back with Bethlehem Steel Corporation at their Fore River plant after being hospitalized with a hip operation for a time this summer. He was lame for some time, but now gets along very well and continues to live in North Abington. George Cumings, VI, continues his life as a country squire in Winchester, having been retired from New England Telephone and Telegraph Company for over three years now. His only complaint, he says, is his inability to accomplish as much as he would like to. Dennie Denison, VI, the boy who returned home to Framingham, Mass., in mid-March, to take over the secretaryship of the Framingham Chamber of Commerce after nearly 10 years in Gardner, reported that he and Sara are very happy there. They have seven grandchildren.

Henry Dolliver, I, is still with Jackson and Moreland, Boston engineers. He has just completed and published a Dolliver family history and says his wife is an avid rug-hooking addict, having just started on a 24-foot stair rug. They have seven grandchildren. Ambrose Gring, X, has retired from engineering work and has made

an avocation a vocation — teaching violin and piano, following two years musical study at Leipzig University in Germany. He said there are not many music teachers who give instruction in both violin and piano, but there are two in Brookline, Mass., he and a Priscilla Holmes.

Tom Haines, II, "the last of the Mohicans" at Boston Edison for 1911, is retiring December 1. As maintenance vice-president he was very busy during hurricanes Carol and Edna, but found time then to welcome a new granddaughter, making three grandchildren. Jack Herlihy, II, reported that his first year of retirement from Booton had passed very quickly and enjoyably, odd jobs around the house keeping him well occupied and he is still a director of the company. The Herlihy's now have eight grandchildren.

Our two Boston schoolteachers, both regular in attendance at these and other class events, followed in the talk-around. Art Leary, I, still active in the Boston school system has recently published a textbook, *Plane Geometry*, and says he is now trying to interest his 11-year-old boy in piano, but the youngster is learning to play a trumpet instead. Charlie Linehan, I, is still teaching at Rindge Technical School, Cambridge, and his daughter is now at Sacred Heart College in Newton. Roger Loud, VI, another Edison "alumnus," has been retired one year and said that he and his wife are still in an 11-room house in Weymouth, "rattling 'round like two peas in a pod," except for one month each summer when they either go to Minneapolis to visit their oldest son and his family or the kids come home. Heger and Esther have five grandchildren. Maurice Lowenberg, VI, is still with Stone and Webster in Boston, but says he is doing more traveling for himself and his wife and less for the company. The Lowenbergs had a most enjoyable trip to Europe in May and June.

"I'm glad Dennie is back in Framingham," said Roy MacPherson, II, "because it means Sara is taking care of Inal" Roy is practically retired, but still carries on a consulting practice and is teaching two nights a week on meteorology for the power squadron. Their married daughter and husband and two children live in Waterbury, Conn. Morris Omansky, V, said the past 12 months have been probably the most interesting in his patent law career. He has argued several very interesting cases in the Court of Customs and Patent Decisions and now is an expert witness in a Long Island tire blowout accident that cost four lives. He said his daughter, Frieda, sent regards to all.

Carl Richmond, I, has just completed 17 months of retirement, but with an 11-year-old boy he does not do much extra sleeping mornings. In fact, he said the days aren't long enough for all the things he'd like to do. He wondered if there is any other place where five '11-ers live within a ½-mile radius — in Winchester there are Cumings, Eldred, Goodhue, Richmond and A. O. Wilson. Bog Stevens, IV, continues to devote a lot of time to Boy Scout work, being chairman of the Cub Committee and a member of the BSA Committee in Belmont. He is now with the Charles A. Maguire (our late classmate) Associates on bridge construction

work and his two boys are 15 and 10, the former an Eagle Scout and the latter now a cub scout.

O. W. Stewart, I, reported he was still on amiable terms with Gertrude after two years of retirement. He is still very active in berry cultivation at Kingston and does many "charity" jobs, including membership on the executive committee of the Two State (Mass. and R. I.) Y.M.C.A. Association. Gertrude is likewise engaged in a number of activities, including right now the presidency of the Girl's Friendly Society. Another thing O. W. enjoys is membership on the board of trustees of Huntington School. The Stewarts have eleven (that's 11) grandchildren — nine girls and two boys!

Norman Wade, II, still another Edison "grad," said that after two years of retirement he had sort of graduated from "house work" and now has a consulting job with the Army, looking over sites and camps as superintendent of maintenance for the First Army Corps. The Wades have two daughters and three grandsons. Aleck Yereance, I, plans retirement from his Prudential mortgage and real estate division managership on February 1 and he reported his successor had just arrived for training. The Yereances plan to move to Virginia to be near their daughter, still maintaining their summer place at West Harwich on Cape Cod.

Class President Don Stevens sent a message to classmates: "Always wish I could be with you. How about you all coming to New York for the Dennie Luncheon at the Tech Club January 11th." Regrets were also received from Cal Eldred, VI; George Forristall, II, who said he is now with Transcript Publications, Inc., Dedham, where he is promotion manager for advertising and circulation of the *Dedham Transcript*, *Needham Chronicle*, *Newton Graphic*, *Roslindale-Parkway Transcript* and the *West Roxbury Transcript*, all weekly newspapers; Ned Hall, II, in Washington on a business trip; Fred Harrington, I, recovering from a stomach upset, breaking a streak of many years' perfect attendance; Harold Robinson, I, who is living in Holden, Mass., and is now connected with the Safe Deposit Department of the Mechanics National Bank in Worcester; Emmons Whitcombe, X, on his way home from the annual American Society of Travel Agents' convention in San Francisco; and Al Wilson, I, who says he is very busy now expanding his A. O. Wilson Structural Company in Cambridge, with the aid of his two fine sons, Albert and Don, and also as chairman of the executive committee of Gordon College (Baptist), building a new campus out at Beverly Farms, Mass.

In his annual report in early November to the board of trustees of Northeastern University, President Carl Ell, XI, announced that the school's assets for the 14th consecutive year increased, the increase in the past year of \$1,320,956 bringing assets to a new all-time high at \$14,678,506. This means that in his 14 years as president Northeastern's assets have increased by more than 12 million dollars. Carl further reported that the school's co-operative program of work and study earned more than \$3,000,000

for 2,500 students during the past year.

Continuing, President Ell said: "Its success at Northeastern has resulted in mounting enrollments, increased physical facilities and strengthened faculties. The cooperative jobs, with nearly 600 employers, large and small, were distributed throughout New England and along the Atlantic seaboard, the largest concentration naturally being in eastern Massachusetts." During the last year, Northeastern's enrollment reached the 13,902 mark — highest in the university's history. We are all proud of the fine work you have done and are doing, Carl!

While away at a meeting in Boston one day in late October, a Mr. Jenkins from the Snow Inn, Harwichport, staff called and left word that "the Thompsons all say 'hello' and want you to know that everything is all set for the 1911 Forty-fifth Reunion at Snow Inn, June 8-9-10, 1956." Be sure to put those dates down on your calendar at once — with Alumni Day at M.I.T. immediately following on Monday, June 11, 1956. Be there!

For the information of traveling classmates and those who live in the Southwest, there will be an all-day M.I.T. Southwestern Regional Conference Saturday, January 29, at the Hotel Adolphus in Dallas, Texas, with President Jim Killian '26 and two departmental heads as principal speakers. Another January date for travelers and classmates in the New York metropolitan area: Tuesday, January 11, a Welcome to Dennie class luncheon at the M.I.T. Club of New York in the Architectural League, 115 East 40th Street, New York City. See you there, I hope.

A belated but very hearty wish for a Happy New Year to you all! — ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, 109 Concord Street, Framingham, Mass.; JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford, Mass.

## • 1912 •

Bates Torrey writes that greatly to his regret he was unable to get to the Reunion last June. He and Alice are definitely planning to be with us in 1957 when we are looking forward to a big gathering on the Cape.

George Sprowls who, by the way, is Manager of the Highway Transportation Department of Goodyear Tire and Rubber Company, Akron, Ohio, was prevented from attending the Reunion, as his wife Margaret fell from a stepladder and broke a bone in her right foot just a few days before they were starting East. George reports that otherwise they are in the best of health and recently enjoyed a pleasant drive to Williamsburg where they spent several days inspecting William and Mary College. George is greatly interested in three dimension pictures in color and has a very interesting library showing his travels. They would be delighted to see anyone who is in the vicinity of Akron.

John Hargrave has retired from his tool business in Cincinnati and is now living in Thomasville, Ga.

Bill Canada who retired from the Postal Service in Albany last spring is now living in DeBary, Fla., which is on Route



17 about 30 miles north of Orlando and 32 miles in from Daytona Beach on Route 92. Bill reports that this is a new development, not landscaped or planted in any way, so that he expects to be busy for some time getting settled. Although the Village was originally planned for retired people and there are now about 500 families living there, there are some 80 children about.

The Alumni Fund this year is to be entirely devoted to a memorial for Dr. Compton. This should be reason enough for a more than generous donation from each of us. An anonymous donor has offered to match dollar for dollar this year's Alumni Fund so that every dollar you contribute counts for two. Although the 1912 average contribution ranked well with the classes before and after us, our percentage of class contributors was very small. Only 98 men or 30 per cent of the active class roll sent in a contribution. I know 1912 can do better than this and this is surely the year to send in your contribution, large or small. — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. *Assistant Secretaries*: LESTER M. WHITE, 4520 Lewiston Road, Niagara Falls, N. Y. RAYMOND E. WILSON, 8 Ogden Avenue, Swarthmore, Pa.

## • 1914 •

Congratulations to our President, Charlie Fiske! At a conference of General Motors Acceptance Corporation executives from all over the world held in New York the end of October, the President of the Company announced that Charlie, who had formerly been vice-president in charge of the Financial Department, had been elected executive vice-president.

Your Secretary noticed that Carl Springfield, who had been general superintendent of the United Carbon Company at Sayre, Okla., for many years, had become associated with the Tecu Production Company in that same City. A note to Carl brought forth the fact that he is really with the same United Carbon group, as the Tecu Company is allied with United Carbon, which owns a considerable percentage of their stock. Carl lamented the fact that he has not been able to attend any recent reunions, but explains that this is due to the fact that May and June are usually the busiest months of the year, largely because their oil drilling at that time requires his presence in Oklahoma.

A letter from an old friend of your Secretary in Austin, Texas, contained the note that his son had gone to work for the Tips Engine Works in that City. This is where Ralph Goeth has been ever since he left the Institute. Ralph's family owns the Engine Works, and by coincidence the son of your Secretary's friend is working directly for Ralph's boy. Following this contact, your Secretary learned that Ralph still has a strong yen to be an architect and work in that field would give him great pleasure. However, due to family ownership of the company, it was more practical for him to step in as the operating head.

By the way of a reminder, it should be recalled that the 1955 Alumni Fund is to

be entirely devoted to a memorial to Doctor Compton by being applied to the Karl T. Compton Laboratory of Nuclear Sciences and Electronics. In addition, an anonymous donor has agreed to match dollar for dollar this year's Alumni Fund. Therefore, it becomes an opportunity of making your one dollar do the work of two dollars, but for 1914 we have an additional interest in this year's Fund. It will be recalled that besides this special use of the Alumni Fund, 1914's contribution will be credited to the 1914 fifty-year gift to the Institute. As most of us are rapidly approaching retirement, this brings an opportunity to make an unusual contribution now for the credit of the Class in 1964. — H. B. RICHMOND, *Secretary*, 275 Massachusetts Avenue, Cambridge 39, Mass. H. A. AFFEL, *Assistant Secretary*, 120 Woodland Avenue, Summit, N. J.

## • 1916 •

We are very pleased to begin our notes for this issue with bit of good news on the progress of Joe Meigs in a letter from Rudolf Gruber: "I had a little visit with Joe Meigs a few weeks ago, at The Chemists' Club in New York. I am very glad to say that Joe, although temporarily helped by a cane, was in good spirits, and very busily engaged in getting established in his new home in the country. I thought you might like to have this encouraging report." Rudolf also writes "that I have shed some of my administrative duties. This gives me more time to advise, and consult with the Corporate Management of Merck and Company, Inc., on the many-sided problem which 'Therapeutic Progress' poses to our firm."

A press release of the Foreign Operations Administration brings us this news item about classmate Bill Ogden: "W. L. Ogden of Deadwood, S.D., to Iran as Economic Program Officer. Ogden was with the Standard-Vacuum Oil Company in various positions for 20 years (1922-1942). He entered government service in 1942 as a transportation economist with the Petroleum Administration for War and since then has been with the U. S. Maritime Commission, the U. S. Army headquarters in Tokyo, and the National Security Resources Board as a port economist and industrial specialist. In 1952 and 1953, he served as a consultant on transportation problems to various organizations. Ogden received a B.A. degree in economics from the University of Michigan and a B.S. in mechanical engineering from the Institute. His wife, the former Ardra Hodgins of Houlton, Maine, will join him later." Good Luck, Bill.

This news item tells us of a new responsibility which Vannevar Bush has added to his already tremendous list: "Secretary of Commerce Sinclair Weeks announced today the appointment of an advisory committee on applications of machines to patent office operations. Its chairman is Dr. Vannevar Bush, President of the Carnegie Institution of Washington, and Director of the Maritime Office of Scientific Research and Development."

And here's one about classmate Maurice Strieby: "Dr. M. E. Strieby, director of technical demonstrations of the American Telephone and Telegraph Company, will

demonstrate the Bell Solar battery at the monthly meeting of the Boston Section, American Institute of Electrical Engineers to be held Tuesday at 7:45 P.M. in Room 10-250 at M.I.T. After outlining present sources of power available and the advantages of obtaining electric power directly from the sun, the lecturer will demonstrate how a Bell solar battery, held in his hand, is adequate to provide power for a telephone or a tiny walkie-talkie radio, and enumerated possible uses for such an instrument." Another clipping described this as "one of the most interesting applications of silicon in the communication and power field . . . the first successful device to convert useful amounts of the sun's energy directly and efficiently into electricity."

We mentioned in our last issue that classmate Ed Weissbach "was ordained in the Sacred Order of Deacons on October 16th in Grace Church in Merchantville, N.J." We would like to quote for you now in part from the report of this great event in Ed's life: "The Rev. Mr. Van Duzer, in his sermon, compared the candidate for ordination with Paul as he stood trial before King Agrippa. 'And as Paul said, I think myself happy because I shall answer for myself today. I stand and am judged . . . Like Paul, the candidate today stands upon his feet, is tried and examined by the people, through the Bishop, and answers for himself. Like Paul, he has displayed a love for Christ to follow His Command and as a deacon of the Church, he will be a consecrated man of God, of fine Christian character, faithful to the Church and possessing a zealotness to learn more about God. He is now ready to rise and stand upon his feet and go forth into God's service.'" Ed wrote us that he "was to continue with my job as a mechanical engineer with Campbell's." He also wrote that he was made extremely happy by the arrival of his second grandson, John Frederick, born on September 17, 1954." Congratulations all the way around, Ed!

We were very pleased to get this very full report from Horace Bickford on his activities since leaving school: "Affiliated with various industries for over 18 years. During this period, was engaged in managerial and engineering work, such as, in charge of production and maintenance; research and development; modernization of equipment and processes; consolidation of several small factories into one central plant; designing and erection of foundations; structural steel; steam, water, air and process piping systems; and installing of machinery. These industrial plants were located in Ohio, Massachusetts, New Jersey, New York, Maine and Canada. The above work was performed for an electrolytic copper refinery. I was in charge of the design of the water supply system whose source was a lake four miles from the refinery; a pulverized coal plant; structural steel for cranes and other types of conveying machinery; casting wheels with hydraulic drives; reverberatory furnaces with waste heat boilers which supplied the steam for the turbo-generators and bled steam for heating the buildings and process steam. A chemical plant which manufactured water softening materials and the equipment for its use. I



was in charge of the designing and erection of the buildings and the installing of the equipment. This plant had its own power house, water supply and sewerage systems and also, an industrial railway.

"After the plant was in operation, I did research and development work which increased the capacity of the plant and improved the product. The erection of a power house for a woolen mill. The boilers could be fired by either fuel oil or pulverized coal. The water supply was from a river about one half mile from the plant. I worked on the construction of this power house, starting just after the foundations were in and part of the structural steel was up. I was responsible for the installation of most of the piping systems. During World War II, I was associated with a firm of naval architects and marine engineers. My work consisted of making studies to determine the most efficient and economical main propulsion and auxiliary machinery for various types of vessels; stress and strain computations; heat balances and flow diagrams; analyses of the thermal expansion stresses in high pressure, high temperature steam piping systems; inspections and testing of boilers, turbines, reduction gears, pumps and other mechanical equipment aboard ships or at the vendor's plans; and also I witnessed boiler and turbine tests at the Naval Boiler and Turbine Laboratory in Philadelphia. Attended Surveys, Dock, Builder's and Official Sea Trials on the engine and boiler room machinery on combat vessels for the U.S. Navy and on merchant ships for the United States Maritime Commission. Participated in conferences held at the Bureau of Ships, several Navy Yards and manufacturer's plants. These discussions pertained to the design, materials to be used and the performance of the propulsion machinery during trials or tests simulating at-sea conditions. Assisted a faculty member of M.I.T. in the preparation of several papers which were published in the Transactions of the American Society of Mechanical Engineers and also, various reports and memoranda for his clients. Co-author of a book describing a mathematical analysis to determine the thermal expansion stresses in a three plane, multi-injunction piping system. This method was developed for and approved by the Bureau of Ships. Later, I was requested to instruct the technical staff members of the Bureau of Ships and the U. S. Coast Guard in the application of this method. Also was active in the development studies for the originator of a non-hazardous system for pumping, storing and transporting volatile liquids.

"About three years ago, I 'emigrated' to Maine to set up on engineering service and incidentally operate a small boat repair yard. However, there has been little demand for engineering talent and the tail has been wagging the dog. Although I have always liked to work on boats, it is not my intention to devote my full time to them, and I would prefer to get back in the engineering business. I am therefore going to take up temporary residence with my son, Horace L. Bickford, Jr., in Pater-son, N. J., while trying to find the opportunity to become active in engineering again." Our best wishes to you, Horace.

It is with great sorrow that again this month we must report the passing of one of our beloved classmates, Major General Albert C. Lieber. The notice in the newspaper read in part: "Major General A. C. Lieber, 59, former post and division commander at Fort Leonard Wood, Mo., died today (Nov. 9) at the post hospital. He died of a heart ailment a short time before he was to have reviewed 27,000 troops with Lieutenant General Hobart Gay, commanding general of the 5th Army. General Lieber assumed command of the post and the 6th Armored Division on April 19, serving until yesterday, when Brigadier General F. S. Bowen, Jr., his assistant, took over." We'll surely miss him. Our thanks to John Fairfield, Walt Binger, Phil Baker and Carl Lovejoy (Class of 1910), all of whom communicated to us the news of Al's death. We would like to quote here a comment made by Carl Lovejoy in his letter: "I worked under Al Lieber when I first went with the Corps of Engineers in Zanesville, Ohio, at the time of the stock market crash and depression. He was a captain then and a brilliant, human, likeable officer." And this observation by Walt Binger, "Al certainly made good in his profession. You will remember that he took the President's examination and was commissioned a 2nd Lieutenant on the same basis as West Pointers of that year, in the Corps of Engineers." See you next month. — RALPH A. FLETCHER, *Secretary*, P. O. Box 71, West Chelmsford, Mass. HAROLD F. DODGE, *Assistant Secretary*, Bell Telephone Laboratories, 463 West Street, New York, N. Y.

### • 1917 •

A recent note from Neal Tourtellotte encloses a news reprint with a handsome photograph of one Neal Tourtellotte being presented a plaque by officials of the Goodyear Tire and Rubber Company, of Akron, Ohio, for having been a dealer and distributor of their flooring products in the Pacific Northwest for over 30 years. Neal also called our attention to Dutch Du Pont's resignation after January 1 as Commissioner of the United States Bureau of Roads to become a special assistant to Secretary of Commerce Weeks. Neal writes: "Thought you might get your usual laugh from the attached broadside, even if in the news article Litchfield was demoted to President instead of Chairman of the Board (of Goodyear)! Dutch Du Pont was my guest at lunch this noon. We had a swell time going over old days. His picture and articles about him are in our daily press all the time. See a couple attached. Apparently in his new job, he will continue his work in promoting roads but he will be spared the tedious duties of his present position. As I get it he must initial every tiny move and spends most of his time on this detail. No time to think. Before he took this Bureau of Public Roads job, Dutch was Republican National Committeeman from Delaware. Thus he often attended meetings where my wife was since she is Republican National Committeewoman from Washington State. Talking of wives, mine has just returned from a two weeks tour in each Italy and France. She went over on a Mission with seven other women from all of the U.S.

on a combined job for the FOA (Stassen), the Department of Labor and the Department of State. I still don't know what it was all about since some of it was secret but I do know that it was a great honor."

Emil A. Gramstorff was recently appointed Dean of the Graduate Division of Northeastern University's College of Engineering. C. Baldwin Sawyer has been nominated by the Alumni Association as a member of the M.I.T. Corporation Visiting Committee for the Department of Metallurgy. As part of the current effort to fund the Karl Taylor Compton Laboratories for Nuclear Science and Electronics a meeting is to be scheduled for Dallas on Saturday, January 29 at the Hotel Adolphus. This is to be an all-day M.I.T. Southwestern Regional Conference, and included with the representative speakers who will join President Killian from Cambridge we find Walter G. Whitman of 1917. Kenneth E. Bell has retired from his position as vice-president with A. C. Lawrence Leather Company as of November 1 and has sold his home in Marblehead. Ken has property bordering on Winnepesaukee where he has had a summer home for several years and on one end of which his new home is being built. His present mail address is Mirror Lake Post Office, Tuf-tonboro, N.H. — RAYMOND STEVENS, *Secretary*, 30 Memorial Drive, Cambridge, Mass. W. L. McNEILL, *Assistant Secretary*, 270 Park Avenue, New York City.

### • 1918 •

From the Pittsfield *Berkshire Eagle* comes word that Sam Chamberlain took time out from his picture making in western Massachusetts to address the Berkshire Museum Camera Club on October 13. Sam would rather express himself through an etching, an f5.6 exposure, or a book on French cooking, than by the spoken word, but sometimes he makes an exception. Sam lives in Marblehead with the decorations and awards several governments have bestowed on him. He was honored by the French government for his work as an ambulance driver in World War I. He served as an Air Corps major in World War II, winning the Legion of Merit and the Bronze Star. The technical excellence of his photographs in a large number of calendars he publishes, including those of New England, Maine, Nantucket, Washington, among others, have made Sam widely known. He is author of many illustrated books including *Old Sturbridge*, *Ever New England*, *Springtime in Virginia*, *Behold Williamsburg*, *Salem Interiors*, *Old Deerfield*, and books on Harvard, Yale and Princeton.

This is, I think, the first time in the quarter century class notes have flowed down this particular pen, when the ink was mixed with anger. But Fred Philbrick, an honorable man if ever there was one, has been unjustly attacked by the *Reader's Digest* of last September. By hard work and outstanding ability Fred worked himself up through being chief engineer to the presidency of the Gamewell Company. The article, which names the Company says "... your public officials are squandering your tax dollars on an obsolete fire-alarm system that is rarely used, costs too much, doesn't protect you as well as you have been led to believe, and prob-

ably should be junked." The idea is that the telephone is enough. Actually, the cost of rental of equipment and lines from the telephone company would pay interest, amortization, and maintenance charges on an adequate fire-alarm system, as the town where I live found out after years of the telephone. And what do you do in a telephone strike? The article contains various other incorrect statements which could only have been made in ignorance or malice. If you do not trust my own research on the subject, look into it yourself. Detzer, the author, says that "when one box goes out of order, or the wire breaks, all the boxes on the circuit are out of service." That defect was corrected by Gamewell over 20 years ago. He is talking about equipment long obsolete. Nowhere does the article refer to the National Board of Fire Underwriters. Why? Because it is on their reports that insurance rates are based. They lower rates where there is a fire-alarm system, not where there are only telephones, and the reduced premiums alone would pay for the fire-alarm system in five years. Beverly Hills, California, had exactly this experience. There are three more pages of comment on such incorrect statements in my notes, but this will serve. — F. ALEXANDER MAGOUN, *Secretary*, Jaffrey, N. H.

## • 1919 •

A Happy and Prosperous New Year to all! An anonymous donor having offered to match dollar for dollar contributions to our 1955 Alumni Fund for the Karl Taylor Compton Laboratories for Nuclear Science and Electronics, we will want to make our gifts this year as large as possible for this good cause. Gifts totaling over \$2,000 from the Class of 1919 helped bring the Alumni Fund for the Year of 1954 to a quarter of a million dollars. Average contribution for our Class was \$24.50.

For the information of our travelling classmates and those who live in the Southwest, there will be an all-day M.I.T. Southwestern Regional Conference Saturday, January 29, in Dallas at the Hotel Adolphus. Speakers from Cambridge: President Killian; Walter G. Whitman '17, and C. Stark Draper '26, Heads of the Departments of Chemical Engineering and Aeronautical Engineering, respectively; John G. Trump '33, Professor of Electrical Engineering and Douglas M. McGregor of Industrial Management. Requests for further information should be directed to Mr. E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas.

Our heartfelt sympathy goes to the family of Ralph Tribou, who passed away October 1, 1954.

Fred Clafin is active in Boy Scout work in his community, is chairman of the annual finance campaign for Southboro, Marlboro, Westboro, and Northboro, Mass. He is also a member of the Congregational Church of Marlboro, the American Legion and the Masons. Fred was the founder of the Johnson-Clafin Corporation in Marlboro.

Congratulations to Lou Grayson of The Travelers Insurance Company, with his office in Washington, D.C. He is a life member of the Million Dollar Round

Table of the National Association of Life Underwriters, which means, as we understand it, that he has written one million dollars of life insurance each year for three consecutive years. Lou wrote concerning the Reunion: "I regret very much that Mrs. Grayson and I will be unable to attend our Reunion. It would be a real pleasure for us to be there and I certainly should love to see a lot of the old crowd with whom I fought the battles of the poison shop and Walker Memorial. At the time of the Reunion I shall be vacationing in Alaska or at Coronado Beach, Calif., and I will find it very difficult at my advanced age to be in two places simultaneously."

Ralph Gilbert has just completed 32 years in the New York Telephone Company. His son Robert (22) received his master's degree in physics at Carnegie Tech in October and is continuing there in the Math Department of the graduate school. His daughter Ann (20) was graduated from Brooklyn College in June *Magna cum Laude* and Phi Beta Kappa, is now attending graduate school at Columbia University and is also a biology assistant at Barnard College.

Our congratulations to Tim Shea on his appointment as vice-president of Western Electric Company, in charge of manufacturing, Eastern Area. This includes supervision of manufacturing plants in New Jersey, Maryland, Pennsylvania and Massachusetts, as well as of a subsidiary, Nassau Smelting and Refining Company. Tim and his wife now live at 92 Pine Grove Avenue, Summit, N.J. They found Albuquerque a fine place to live and had hundreds of friends there. The *Albuquerque Tribune* ran an editorial on his leaving, saying "During his stay of two and one-half years in Albuquerque as executive vice-president of Sandia Corporation, Mr. Shea has achieved a record of community service seldom, if ever, equaled by any citizen of so brief a residence in the community. Albuquerque will miss Tim Shea." All six of their children are married now and Tim and his wife look forward to many civic and cultural interests that it now becomes possible to further. He writes, "We might almost say that life begins at 56, and we look forward eagerly to the years ahead."

Had a line from Jack Fleckenstein saying he will be at the American Petroleum Institute Convention in Chicago in November. He mentions that his daughter is taking graduate work at the Colorado School of Mines in geology and that both he and his wife enjoy the deer hunting season up in Michigan these days. From Buzz de Lima: "Assigned to escort Andrei and Mme. Vishinsky at Mrs. Franklin D. Roosevelt's seventieth birthday dinner, your old class mate was identified as Polish Communist Delegate Birecki when the newsphotos showed him caught between the two principals as they shook hands." Ed Flynn says that he really enjoyed the Reunion and wishes to put in his share of thanks to those who did the job.

Larry Gillett sends this news: "I'm still rocking along trying to keep the Virginian Railway's physical plant in tiptop shape with a reduced budget. But, thank heavens, with a considerable judicious expenditure of funds for capital improvements we

are getting along. We are going through the growing pains of dieselization for the first time this year, and while their arrival caused me a lot of worries due to lack of proper facilities to service them, the results of their operations vs. steam, including economy, is not hard to take." George Fleming writes from Washington, D.C., that there is no news since his last note, but we are glad to hear from him anyway. We will all be happy at this encouraging news from George McCarten on October 18: "I continue to convalesce slowly. Once in a while I think a new muscle comes back to work. Right now I can walk around with a cane and Cecily drives me around in the car. I get down to the office about an hour a day and I am not able to do much work yet."

New addresses: Nelson Bond, American Telephone and Telegraph Company, 400 Hamilton Avenue, White Plains, N.Y.; Dan Brown, 36 Bank Street, Lebanon, N.H.; Ed Deacon, 3 Westwood Road, Biltmore Forest, Biltmore, N.C.; Grant Green, High Rising Farm, Heath, Mass. — EUGENE R. SMOLEY, *Secretary*, The Lummus Company, 385 Madison Avenue, New York City.

## • 1920 •

As many of you know, Rear Admiral Edward Ellsberg obtained his Masters Degree at M.I.T. in 1920, having graduated from the Naval Academy in 1914. We believe he considers himself a member of our Class and certainly he adds luster to it and we are proud of his achievements. He holds honorary degrees from the University of Colorado and from Bowdoin College. He was awarded the Distinguished Service Medal for his work in raising the Submarine S-51 from the bottom of the sea in 1926. During World War II he was Salvage Officer for Red Sea operations and then was Officer in Charge of the U.S. Naval Repair Base in Eritia. For this work he was named Commander, Order of the British Empire. He participated in the Normandy invasion in connection with the installation of artificial harbors along the coast. Later he was made supervisor of shipbuilding for the Navy in the Cleveland area. He is now retired.

Phil Brown is with the Hartford Fire Insurance Company, Hartford, Conn. Vaughn Byron's latest address is 12 Linden Avenue, Harrisburg, Pa. Arthur Grosscup has moved from Summit to South Orange, N.J., address 151 Vose Avenue. John Hale is now a captain and he lives in Chevy Chase, Md. Mitt Hand is in Washington, D.C., address 3415 Woodley Rd. Toots Kinghorn has left St. Petersburg and is in Knoxville, Tenn., address 6101 Kaywood Drive. Bob Knapp is with the California Institute of Technology, Pasadena. Roger Moss crop is with the Public Service Company of N.H. in Manchester. Ned Murdough has a new address, 87 School Street, South Acton, Mass. Clyde Norton has left Washington and is with Remington Rand in South Norwalk, Conn. Vice Admiral Pennoyer is in Coronado, Calif. Ken West is in Tampa, Fla., address 1914 Aileen Street, Don Williamson is in Austin, Texas.

Speaking of Texas, there will be an all-day M.I.T. Southwestern Regional Con-



ference in Dallas, January 29. It is hoped that some of our classmates will attend and give the Secretary a report on any who may be present.

News of great significance to us as well as to all M.I.T. men is the fact that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund which, as you know, is to be entirely devoted to a memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. — HAROLD BUGBEE, Secretary, 7 Dartmouth Street, Winchester, Mass.

## • 1921 •

### Happy New Year!

Reminiscent of the generosity of George Eastman, the "Mysterious Mr. Smith" of our undergraduate days, comes the amazing announcement from Cambridge that an anonymous donor has offered to match our giving to this year's Alumni Fund, dollar for dollar. As you know, the entire 1955 Fund has been earmarked for a memorial to be known as the Karl Taylor Compton Laboratories for Nuclear Science and Electronics.

We have always been intrigued by Mr. Eastman's wisdom in "matching" Alumni interest in making his huge contributions and the tremendous impetus which his method of giving and his anonymity gave to the "drives" of those days. Our interest was heightened by the privileges we enjoyed, as the then Editor of *The Tech*, in regular contacts with Dr. Maclaurin and Lobby regarding promotion of the 1920 campaign, in our sharing the secret of the donor's real name for quite some time in advance of the public announcement, in editing the famous two issues of *The Tech* on the big day when Mr. Smith's identity was revealed, in the thrill of holding the four-million-dollar gift when it arrived and, to top it all, in a personal note we received from Mr. Eastman with his thanks for the first issue off the press in which *The Tech* scooped the world's news services by publishing the name of the munificent benefactor of M.I.T.

It is most gratifying that another generous friend of M.I.T. will insure the success of a memorial to another great Technology president. That he looks with favor on the Eastman "matching" psychology should urge us all to contribute more than ever before in order to demonstrate to him the full measure of our love for the Institute. Of course, from the crassly commercial viewpoint, it should be observed that M.I.T. will receive exactly twice the amount we give. Let's dig deep this time!

We have always wondered whether George Eastman was personally responsible for the unusually appropriate "Smith" pseudonym. Few people ever realized that it was based on "MIT" which form the central three letters. In view of the happy choice, we hope the new anonymous donor will not be just plain "Mr. Jones" nor plagiarize to the extent of becoming "Mr. Smith II." We urge him to consider a reference to the basic objective which will again use "MIT" as the central letters and to adopt, for the present, the name of "Mr. Amity." For that matter, it might be a good idea if Technology were

to rename our annual giving henceforth as the Amity Fund.

Arthur R. Gatewood has been honored by the Board of Directors of the American Institute of Electrical Engineers who have elected him a Fellow of the Institute "for his contribution to the development and application of national and international standards relating to the installation of electrical equipment on shipboard." An article in the October, 1954, issue of *Electrical Engineering* says Liz was born in Philadelphia, Pa., November 6, 1899, and received a civil engineering degree from Virginia Military Institute before graduating with us in Course XIII. A member of Kappa Sigma and Theta Tau, he was secretary and chairman of the Naval Architectural Society, on the governing board of the T.A.C. and a member of the Institute Committee while at Technology. Since 1929, he has been associated with the American Bureau of Shipping, New York City. Originally a surveyor on the technical staff analyzing marine electrical construction plans, supervising construction and repair of ship electrical equipment, he later became principal engineer surveyor in charge of the technical staff and the formulation of Bureau rules for marine construction, installation and maintenance of electric propulsion and electric service systems. Since 1947, he has been chief engineer surveyor in responsible charge of all engineering work carried on throughout the world by the Bureau, including not only the electrical field but also relating to boilers, engines, materials, auxiliary equipment and components. A delegate to the Conference on Safety of Life at Sea, he is also a member of the American Society of Mechanical Engineers, Society of Naval Architects and Marine Engineers, American Welding Society, American Society of Refrigerating Engineers, British Institute of Marine Engineers and the Institution of Mechanical Engineers.

C. Levon Eksbergian, Executive Engineer of the Budd Company, was awarded the George R. Henderson Medal by the Franklin Institute for his outstanding accomplishment in the field of railway engineering. The citation accompanying the award, which was made at the medal day ceremonies last October, refers to his "invention and subsequent intensive development and application of the disc brake as applied to both self-propelled and high speed passenger cars in railroad service."

Walter E. Church, senior member of the architectural firm of Church, Newberry and Roehr, 619 Builders Exchange, 320 S. W. Stark Street, Portland 4, Ore., continues his outstanding record as one of the most faithful reporters of news for this column. In a very welcome letter which just missed inclusion in last month's notes, Walt advises that Irving (Jimmy) Smith was honored by election as a Fellow of the American Institute of Architects at the national convention in Boston last summer. Jimmy is the third member of the Portland group of architects from the Class of 1921 to be so honored; the others are Walt Church and Glenn Stanton. He now has his own architectural office in Portland with a successful and growing practice. He also serves on the Oregon State Board of Architects Examiners.

Glenn Stanton, Portland architect and recent national president of the American Institute of Architects, conducted an architectural tour to the Mediterranean and southern Europe last fall following his return from the Boston convention and our Class party. He has recently been appointed to the City Planning Commission on which he has formerly served. John Stanton is another Portland architect who is busy with his own successful firm. Jack Winn, Course X, is the manager of the Port of Portland, which handles all shipping and air travel. The Port is starting a large expansion program. Harold H. Cake, Hexalpha, is with the Equitable Savings and Loan Association, 411 S. W. 6th Avenue, Portland.

Walt says that while he was vacationing in Canada last summer he ran into a friend of Sam Lunden, also a Fellow of the A.I.A., who has his architectural office in Los Angeles. Sam was reported to be busy not only with his extensive practice but also as a member of a number of civic committees which are undertaking the solution of local traffic problems. Of himself, Walt reports that he serves on the Oregon State Board of Architects Examiners, the Riverdale Zoning Board and the Portland Board of Junior Achievement. He was recently elected Commander of the Portland Chapter of the Military Order of the World Wars and a member of the Board of Directors of the Portland Art Association. His oldest son, Dud Church, M.I.T. '47, Course X, has been technical supervisor of the largest specialty paper mill in the world, the Crown Zellerbach pulp mill at Camas, Wash., and is now assistant technical liaison officer at the company's main office in San Francisco. The second son, Bill Church, M.I.T. '52, Course IV, and recently an architectural draftsman with Stewart and Richardson, Architects, Portland, is now in the office of Howard Perrin, Klamath Falls, Oregon. Mac Church, the youngest boy, was graduated from Stanford in 1951 in a pre-medical course and is now in his third year at the University of Oregon Medical School in Portland.

Members of the Class of 1921 who live in the southwest will be interested in the announcement of a one-day M.I.T. Southwestern Regional Conference on Saturday, January 29, 1955 at the Hotel Adolphus, Dallas, Texas. Continuing the series which has been so highly received in other centers, will be outstanding speakers including President Killian, Walter J. Whitman and C. Stark Draper, Heads of the Departments of Chemical Engineering and Aeronautical Engineering, respectively; John G. Trump, Professor of Electrical Engineering and Douglas M. McGregor of Industrial Management. Details can be obtained from E. O. Vetter '42, Geophysical Service, Inc., 5900 Lemmon Avenue, Dallas, Texas.

Robert F. Miller of Falls Church, Va., wrote to express his sorrow at the passing of Joe Gartland, reported in the November Review. Bob had phoned Joe in Cleveland a few months previously and found him in excellent spirits, his health good and his physical situation under control. Bob voices the sentiments of all that Joe will be missed from our group. The Miller family is growing up fast with



Peggy in her third year as a student nurse and Bob a freshman in a cooperative engineering course at Rochester Institute of Technology. Betty will be graduated from high school this June and the three younger children are all in grade school. The Millers expect to be busy with June graduations for a number of years to come!

Mrs. Victor C. Hassold has written a very kind letter regarding the class note in last July's Review on Vic's death. She says that Al and Mrs. Lloyd recently visited her in Philadelphia on the occasion of a visit to their daughter, Edith, who was graduated from Simmons College last June and who is now employed in Philadelphia. Al has entirely recovered from a recent illness.

Ray St. Laurent phoned from the Rogers Corporation plant in Rogers, Conn., that he was leaving on an extended trip to the middle west and southwest and expected to see members of the Class enroute. Saul and Rigi Silverstein had not yet returned from their journey to Turkey but numerous articles are still being received about the group of American businessmen who are associated with Saul in the endeavor to teach U. S. techniques to friendly foreign countries under the Council for International Progress and the Government's Foreign Operations Administration. *Newsweek* for September 6, 1954, had an illustrated article on the Turkish safari and a dozen issues of the *Rogers Reporter* have arrived to date with Saul's detailed diary of his experiences.

You have the report of the 1954 Alumni Fund, so ably administered for the Class of 1921 by our Class Agent and versatile farming engineer, Ed Farrand of the Colonial Plantation, Leesburg, Ga. The figures show that we are the twenty-seventh in size of the 58 individual classes listed in the report, with 811 classmates on our active roll. It is certainly to Ed's everlasting credit that we are ninth in the amount of our total giving since the Fund was started in 1940. Our 1954 gift was topped by 12 other classes. We are sixteenth in the total number of contributors for the year and in a six-way tie for twenty-fourth position in the per cent of the Class which contributed. The 1954 average contribution is in thirty-second place.

Thomas P. Campbell is associated with the City and County of Denver, City and County Building, Denver 2, Colo. Samuel F. Chalfin is with the American Machine and Foundry Company, 261 Madison Avenue, New York 16, N. Y. William A. Collins lives at 50 Prospect Street, Taunton, Mass. Percival B. Crocker's home address is 39 Main Street, Foxboro, Mass. Julius Gordon has a new home at 1404 Park Avenue, S. E., Atlanta, Georgia. Francis A. Guffey gives his home as 618 Central Avenue, Oak Hill, W. Va. Walter C. Hagerton can be reached at 417 Belton Road, Silver Springs, Md. Robert W. Haskell resides at 51 Marked Tree Road, Needham 92, Mass.

Addresses have also been received for Dr. Elliott T. Adams, Donald S. Cheney, Edward S. Dennison, Joseph W. Fowler, Luther Goff, Frederic J. Grant, Milford P. Graham, Henry N. Hallet, Captain James L. King, Major General Herbert B.

Loper, Joseph C. Moosbrugger, Arthur W. Skilling and Marshall H. Winchester.

Again we must report the passing of members of the Class. Christopher Lucius Tortorelli of Chicago, Ill., died on February 22, 1951. He had been associated with us in Course VI. Colonel Lewis Andrews Nickerson died on February 18, 1954. He received the master's degree with us in Course II. At the time of his death, he was Commanding Officer, Benicia Arsenal, Benicia, Calif. On behalf of the Class, sincerest sympathy is extended to the families of these classmates.

Have you returned to M.I.T. the card requesting your address and certain other data for publication in the 1955 issue of the Alumni Register? — CAROLE A. CLARKE, Secretary, Federal Telephone and Radio Company, 100 Kingsland Road, Clifton, N. J.

## • 1922 •

Congratulations to our former class president, Clayton D. Grover, who has recently been elected president of Whitehead Metal Products Company, Inc., after 29 years of steadily increasing responsibility. Allen S. King who has spent his entire business career with Northern States Power Company is today president of that concern. Quoting from the Minneapolis *Star* we learn "Short, balding and having an easy-going manner, King likes to spend most of his off-duty time with his wife at their home 4210 Fremont Avenue S., have a round of golf and read history and biographies. Their only living child is an Episcopal minister at Mandan, N. D. King has devoted much time to religious, boy scout and civic projects in Minneapolis and North Dakota. He is a member of the Bishop and Council of the Minnesota diocese of the Episcopal Church, member of the Minneapolis Boy Scout Council and the National Committee on Scouting. In North Dakota, he was a member of the North Dakota-Minnesota Resources Development Commission, member of the North Dakota Children's Home, president of the Fargo-Moorhead Interchurch council and president of the Fargo-Moorhead Executives club." This proves that being on the track team is a good thing. The New York members of the Class had a fine meeting the evening of October 10. Cocktails, dinner and a special showing of Don Carpenter's 1953 "Around the World" movies with special emphasis on the hiking tour Don and Mrs. Carpenter made in the Himalayas. Don's running commentary was of exceptional interest and all present felt especially rewarded. Those on hand were Ed Allen, Bill Bainbridge, Russell Bellezza, Dave Broudy, Don Carpenter, Nathan Cherniack, Yard Chittick, George Dandrow, Erb Ditton, Howard Duge, Bill Edmunds, Whit Ferguson, Arthur Frappier, Cliff Grayley, Bill Grady, Chet Greening, Clate Grover, Rex Hall, George Holderness, Ed Koehler, Frank Kurtz, Zen Zuh Li, Fay Lincoln, Milt Manshel, Dave Minton, Bill Mueser, Jim Nesmith, Judd Payne, C. W. Perkins, Paul Phillips, Harry Rockefeller, Ray Rundlett, Dale Spoor, Jack Teeter, Lawrence Trowbridge, O. S. True, C. W. Tyson, Eugene VanPelt, Lee Warrender and Conant Webb. Harry White, Class of '89, a close friend of many of the New

York '22 men, was also on hand having been made an Honorary Member for the evening. William Bates, long associated with the drafting and engineering departments of the Dennison Manufacturing Company, is teaching drafting in a new course of studies started this fall at the Framingham Evening Technical school to train men in the technical fields of the machine tool industry. Further honors for another classmate, Fred Blackall was awarded the honorary degree of Doctor of Science by Clarkson College of Technology at an engineering convocation held at Potsdam, New York last October 8. Well done Fred.

Some time ago Claus Thellefsen of Oslo, Norway, was seriously injured in an automobile accident. He has recently written to Don Carpenter as follows: "I seem to be recovering completely but it takes its time. I am working in my office again every day and make believe I am O.K., but I personally think my efficiency is only about 50 per cent. I am, however, improving every day and will soon be fine. The only trouble is I get dizzy once in a while and lose my balance and have to go to bed, but, thank God, with increasing intervals." We are delighted to hear of this and hope Claus will soon be completely healed. This reminds your Secretary that undoubtedly there must be others in a class as large as ours who are this very minute sick or suffering from injuries of one sort or another of which only their families and intimates have knowledge. To those who are sick or injured at this time, the rest of us join in wishing quick restoration of your health.

Nathan Cherniack has been awarded the Distinguished Service Medal of the Port Authority of New York. The citation that accompanied this award, which was made October 18, 1954, read as follows: "One of the foremost transportation economists in the United States, Mr. Nathan Cherniack has been on the staff of the Port Authority for the past thirty-one years. During this time, his reputation has grown to a point where he is regarded as one of the nation's outstanding experts on the compilation and analysis of data on vehicular, passenger and freight traffic movements. Mr. Cherniack has directed and analyzed the vital surveys which determine the flow and pattern of vehicular traffic within the Port District. His theories on travel patterns have received important recognition and have formed the basis for the planning of transportation facilities constructed both by the Port Authority and other agencies within the Port District. Because of the stockpile of significant statistical data collected under Mr. Cherniack's direction, the Port Authority is always prepared to undertake major studies of highway, railroad, and marine transportation.

"Through his Port Authority work, Mr. Cherniack has developed cordial working relationships with some 50 transportation agencies throughout the United States in order to compare and correlate statistics concerning the Port District with those for the rest of the country. His nationwide professional stature was recognized by his colleagues in the Institute of Traffic Engineers, who elected him President in 1951. For his outstanding ability which

has earned him the respect not only of Port Authority staff members but also of outside representatives of the transportation industry, and for his loyalty, initiative and integrity, the Board of Review has recommended to me, and I, in turn, recommend to the Commissioners, the award of the Distinguished Service Medal to Nathan Cherniack."

Put it down on your calendar that there will be a party at Frank Wing's house in Weston on the Sunday preceding Alumni Day next June to which all 1922 men who may be in the vicinity are invited. As a continuing reminder this will be mentioned in succeeding notes with more details being given as the time approaches.

Incidentally, Frank has recently been elected President of the New England Plymouth Dealers' Association, which organization consists of all Plymouth dealers of Eastern Massachusetts and representative dealers from the rest of New England. Don Severance, Secretary of the Alumni Association, and Chick Kane, Director of the Alumni Fund, have suggested the following plug for their activities which I quote verbatim: "You already know that the 1955 Alumni Fund is to be entirely devoted to a Memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. Now comes the news that an anonymous donor has offered to match DOLLAR FOR DOLLAR this year's Alumni Fund!" "For the information of your traveling classmates and those who live in the Southwest, there will be an all-day M.I.T. Southwestern Regional Conference Saturday January 29, 1955, in Dallas at the Hotel Adolphus. Speakers from Cambridge: President Killian; Walter G. Whitman '17, and C. Stark Draper '26, Heads of the Departments of Chemical Engineering and Aeronautical Engineering respectively; John G. Trump '33, Professor of Electrical Engineering and Douglas M. McGregor of Industrial Management. Requests for further information should be directed to Mr. E. O. Vetter, Geophysical Service, Inc., 5900 Lemmon Avenue, Dallas, Texas."

Three more of our classmates have died. One of these is reported belatedly, that of Don H. McCreery, on June 11, 1951, place and cause unknown. The other two were more recent. Harold D. Mahoney died May 14, 1954 at Mattapoisett, Mass., and William M. Laughton died July 21, 1954 in San Francisco. Our sympathy is extended to the families of these deceased classmates. — C. YARDLEY CHITTICK, *Secretary*, 41 Tremont Street, Boston, Mass. WHITWORTH FERGUSON, *Assistant Secretary*, 333 Ellicott Street, Buffalo 3, N. Y.

## • 1923 •

The Class can take a great deal of satisfaction in the contributions it has made to the Alumni Fund. We rank first with a total of \$74,578 contributed since the fund was started in 1940. We took third place in 1954 with a total of \$11,287 contributed during the year and we tie for sixth place in the average amount contributed.

As you know, the 1955 Fund will be entirely devoted to a memorial to Dr. Compton. Now comes word that an anonymous donor has offered to match dollar

for dollar all the money we raise this year. . . . What do you say, fellows? There is no law against the Class of '23 setting another outstanding example. Remember at the 30th Reunion, Dr. Compton said he always liked to think of us as the "vigorous" Class. There is no finer way for us to return his compliment than to help build the memorial to him.

Olcott L. Hooper, I, has been named chief hydraulic engineer and will head the Hydraulic Division of Stone and Webster Engineering Corporation. He joined that concern in 1947 and since has been working on hydroelectric steam power plants and other Stone and Webster projects in United States, Brazil, Turkey and Canada. Previously, he had an extensive career in the Federal Government. He was with the Federal Power Commission as senior engineer from 1934 to 1942. During World War II, he served in the Office of War Utilities as chief of the Power Allocation Section and chief of the Fuel and Conservation Branch. In 1946, he served as deputy director of the Office for Emergency Controls of the Civilian Production Administration. Congratulations, Ollie!

Notes are scarce this month, but changes of addresses are plentiful. We could use a little help if you fellows would just send in a brief resumé of your activities. — HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 North Broadway, White Plains, N.Y. WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington Street, Auburndale 66, Mass.

## • 1924 •

Just received a letter from Clarence M. Cornish, of the Mexico City Cornishes. Nish is taking the occasion of his brother's visit to do a bit of vacationing and sight-seeing. As this is written they're in Guatemala, so presumably things have quieted down there a bit. He puts in a plug for this year's Fiesta, of course, and it's something worth plugging. Date's not settled yet, but probably March. From personal experience, it's highly recommended. And if you can't make it quite that far you Texans will undoubtedly take in the M.I.T. Southwestern Regional Conference at Dallas on January 29. An all-day affair with a glittering array of speakers from the Institute headed by Jim Killian.

Did you have candy canes around your house at Christmas? If they came in boxes and were identified maybe you discovered as your Secretary did, that they were a product of J. A. Joffe and Company. Julian, you may remember, has been in the candy and fancy icing business for many years now.

Feature article from somewhere arrived on the desk recently headed "A Family Owned Industrial Entity." Told all about Empresas Ferre, "the collective name for Puerto Rico's largest and most diversified industrial undertaking. . . . dedicated to the proposition that industry should serve society first and its proprietors afterward." You'd be amazed just at the list of enterprises included. Here's a few: iron, cement, glass, shipping, trucking, clay products, pulp and paper, asbestos — that gives you an idea. Luis, one of the four brothers who run the show (three of them M.I.T. men, by the way) was quoted as saying, "Ours is not an impersonal conglomerate-

tion of industrial plants. We see them as an integrated unit useful to our economy. . . ."

Happened last summer, but we've just caught up with one of New Hampshire's social events of the season, the marriage of Janet Atherton, daughter of the Blaylock Athertons of Nashua, to Albert William Snow. The Paul Cardinals are celebrating the arrival of their third grandchild in November. Paul is also trying to get credit for his ability as tennis instructor. His son Dick got into the tennis finals at Holy Cross.

Don't know how long the Frank O'Neils are going to be in Europe, but they've been sending back cards for weeks and weeks. They're really getting around. At St. Germain, just outside of Paris, they ran into one of our former professors of architecture, Jacques Carlu. He is now chief architect of the French government at the Palace of Chaillot. A relayed note, Simonds to Robinson to Kane, says that Royce Greatwood, having retired from Union Oil, continues to live in Tokyo. Also some bad news: Felix Stapleton is confined to a veteran's hospital with severe eye trouble, result of World War I gas.

At the annual convention held in Boston in September, George Neitlich was elected V. P. of the American Society of Chartered Life Underwriters. General Foods announced in September that Francis Rosseau has been appointed research manager of their international operations. Frenchy has been with them since the war.

Last year the Class gave the Institute a very nice \$9,000 through the Alumni Fund. This year, as you know, the entire Fund is to go to a memorial to Dr. Compton, an objective that certainly must appeal to everyone of us. As you read in the Association President's recent letter, now an unnamed donor has offered to match all Fund gifts dollar for dollar! In other words we can make \$9,000 do the work of \$18,000. That's really good — and I know this anonymous gentleman will be glad to have us stick him plenty. Have you ever before had a *bona fide* offer to double your money overnight?

The publication of the 1955 Alumni Register is bringing in droves of address changes. Won't duplicate by trying the impossible, listing them all here, but just a few of more than passing interest. There's Otto Kirchner, now with Boeing's Preliminary Design Unit in Seattle; Hugh Craigie, out of Mexico after all these years to Arizona and now to Grand Junction, Colorado; Lieutenant Colonel Gordon Crabb with headquarters of the Alaska Command; off to Florida, Dick Bundy to Altamonte Springs, Stu Lankton to Delray Beach; to California, Warren Hill from Connecticut, and to even things up Willard Marks back to Brookline, Mass., from Beverly Hills; Herbert L. Houghton, "lost" for many years since he was in Singapore, finally discovered right here in New York. Some very interesting addresses showed up. There is Ken Walton in Sand Dune Shanty, Brigantine, N. J.; Calvin Reed now in the Argentine with Frigorifico Armour de La Plata; and Paul Keppler in Helper, Utah. This mailing also uncovered the fact that Rear Admiral Frank G. Fahriou of the Amphibious



Forces, Atlantic Fleet is now a Vice Admiral and that Colonel Edwin B. Maynard who got his doctorate in Public Health with us passed away in August.

So much for now. Don't forget to write to either Pret Littlefield or your Secretary, and don't forget to contribute to this year's Alumni Fund for the Compton Memorial. And make it good! A Very Happy New Year to you all. — HENRY B. KANE, *Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

## • 1925 •

Strange as it may seem, despite every indication on our part, returns from the first mailing regarding the 30th Reunion are still not in. If, by the time this copy of *The Review* reaches you, you have still not responded, please take immediate action. All of the committees are actively at work planning the details of the reunion, and there is no doubt that it will be a gala event, and the more who attend, the better will be the final result.

There are other matters of real interest to Alumni which will bear repetition even though you may read of them on other pages of *The Review*. Some of these are of sufficient importance so that you have probably read of them in the newspaper. The 1955 Alumni Fund is to be entirely devoted to a memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. The real news item is that an anonymous donor will match dollar for dollar everything sent to the Alumni Fund this year. This alone should stir every member of the class to give to the Alumni Fund this year and certainly will add impetus to the drive being made by Fred Greer and Chink Drew in connection with our 30th Reunion Gift to the Alumni Fund. For all of you who may be traveling in that direction during the latter part of January, 1955, mark your calendar now for January 29, 1955, the All-Day M.I.T. Southwestern Regional Conference to be held in Dallas at the Hotel Adolphus. Speakers from Cambridge will be President Kilian'26, Walter G. Whitman'17, C. Stark Draper'26, John G. Trump'33 and Douglas M. McGregor. For further information, contact Mr. E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas.

The news from classmates, although not abundant, is certainly interesting. The firm of Kalvin, Meyer and Company, New York insurance brokers, announced on November 1, 1954, that Henry N. Sachs, V, is now associated with the firm and its name from now on is Kalvin, Meyer and Sachs. Some of you may have seen the September 4, 1954, issue of the *Pittsburgh, Pa., Courier*. This issue carried a most interesting full-page article by James C. Evans, VI. This article was entitled "Havana Special's on time," and discusses the Negro technical worker in general in this highly mechanized and industrialized era. Evans is civilian assistant, Office of the Assistant Secretary of Defense, where he is concerned with racial affairs in the Armed Forces, and he is now completing his second year as president of the National Technical Association after serving 25 years as its executive secretary. From 1928 to 1941, he served in the West Vir-

ginia State College as director of Trades and Technical Education and administrative assistant to the president. He is holder of the Harmon Award in Science. — F. L. FOSTER, *Secretary*, Room 5-105 M.I.T., Cambridge 39, Mass.

## • 1926 •

On this crisp and beautiful Saturday morning in November here at Pigeon Cove, I could easily sit here and compose the class notes from thin air. It is one of those inspirational mornings. However, there is a wealth of material from the clipping services and you do want a little news once in a while so let's see what we can do about arranging some of these clippings. (Most of the '55 model automobiles are in the dealers showrooms today and always I love to look at the new ones. There will be time this morning with the notes practically written before I start.) Last month I told you about Bill Latham's new job that is going to take him to Massena, New York, and I mentioned that classmate Joel Tompkins had been located there with the Aluminum Company for many years. However, this month's clippings tell us that Joel is leaving as Bill approaches. It's too bad that the timing was this way, but Joel is moving on to bigger things in another direction as Bill moves on to bigger things at Massena.

From *American Metal Market* we quote: "Joel Tompkins has been transferred from his post as chief of the electrical division of the Aluminum Research Laboratories at Massena, New York, to the central electrical engineering department here. Joel joined the Nantahala Power and Light Company, an Alcoa subsidiary, in 1930. From that time until 1942 he worked in the electrical field in various Alcoa divisions. In 1942 he was named electric superintendent of the Defense Plant Corporation's St. Lawrence plant which was operated for the Government during World War II by Alcoa. Later the plant was purchased by Alcoa and is now operated as part of the company's Massena works. In 1940 Mr. Tompkins was named to the chief electrical post in A.R.L., stationed at Massena works, a position he held until his recent promotion." Congratulations Joel — now that you are in Pittsburgh you will have to look up Ray Mancha, Wes Hemeon and the rest of the '26 crowd.

A most interesting note arrived this week from Whit Ashbridge in Venezuela. Whenever we hear from Whit it is a travelogue and this communique is up to standard. "Dear George, Did I ever ask if you are related to a Warren Smith who made lots of money in the oil business here? (The answer is most unfortunately, NO!) Enclosed are some pictures taken in Newfoundland in September. I had quite a busy vacation but spent a large part of it packing and unpacking. First a week in New Orleans at the Ochsner Clinic to see what tropical parasites I'd collected (luckily none). Then to Mantoloking, N.J., and after a brief stay at the seashore with the family, off to Philadelphia to have a deviated septum worked on, with trips back and forth to the doctor in Philadelphia. More packing — of uniforms this time. Then to Fort Belvoir, Va., for 15 days active duty to keep from losing my reserve

status then back to Philadelphia to pack for a hunting trip to Newfoundland. There I shot the Moose (photos were enclosed) (my 12 year old boy, Dick was along and shot a duck and caught a 13½ inch one pound trout). Once more to Philadelphia to pack and off to Venezuela on the Grace Line. Sincerely Whitney Ashbridge." Golly, Whit, for a guy like me who never goes anywhere I am exhausted reading about your adventures. The pictures of that moose certainly authenticate the success of your hunting trip.

Another 1926 traveler appears to be Bill Rivers. He mailed us a postcard from Calcutta which states that he and Mrs. Rivers will reach the U.S.A. in late '54 and meanwhile he can be reached only by addressing him at Standard-Vacuum Oil Company, 26 Broadway, New York City. It looks as though we will be hearing from Bill most anytime now and when we do we will tell you more. We have a most exciting story to tell you about Joe Levis. We have known about it for some time but did not want to publish it until all of the details were available. Joe entered the National Fencing Championships this summer and won! Who says we are old men? We quote from the *Boston Traveler*, "Boston's Joseph L. Levis came striding out of the distant past to accomplish one of the most extraordinary physical feats in amateur sports by capturing the national foils championship at New York — in complete secrecy. His triumph was achieved during the precise moments that world attention was focused on Rocky Marciano's defense of his heavyweight boxing crown. A middle-aged man made fencing history." We received a letter from Guido Pomodoro, New England President of Amateur Fencer's League of America which gives much of the background and we quote it verbatim. "Joe Levis, holder of the All Time American record for Fencing achievement Runner-up World Champion Olympic Games 1932), has confirmed his supremacy with the swords by winning the 1954 National Championship at the N.Y.A.C. for the sixth time from a field of 65 sectional qualifiers from all parts of the United States, Canada, Hawaii and Spain. A span of 17 years of retirement separated his latest feat from his five previous National Championships in 1937, 1935, 1933, 1932, and 1929. Lajos Csiszar renowned Fencing Master at the University of Pennsylvania and Ralph Faulkner famous fencing choreographer for the Hollywood movie industry both acclaimed Levis as the greatest foilsmen in the world today despite his age.

"Levis, who had retired from competitive fencing in 1938, was induced by his New England devotees to return to the fencing wars this season. All three Boston Masters, Edo Marion, coach of Harvard, Silvio Vitale, coach of M.I.T. and Larry Dargy, coach of Boston University, combined this Spring to prime Joe for his phenomenal athletic comeback and were on hand at the two-day Fencing Marathon in New York to scout other swordsmen for him while Levis was busy fighting through 25 assaults to reach the top." Joe, I hope you can hear all the "Bravos" from your '26 friends. We are proud to be able to bask in the reflected glory of your



achievement and to be able to say that it was our classmate, Joe, who did it. You are wonderful, old boy. You have already been advised that the 1955 Alumni Fund is to be entirely devoted to a memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. Now comes the news that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund. This you will recall was the stimulating procedure used back in 1915 by the then anonymous "Mr. Smith" who turned out to be Mr. George Eastman. It worked then and brought M.I.T. across the river to Cambridge and we see no reason why it will not work in such a noble objective as the present one. You will be receiving literature through the regular channels but I thought this advance information would interest you. I also thought that you would be interested (especially those of you in the Southwest) to know that Jim Killian and C. Stark Draper will be among the speakers at an all-day M.I.T. Southwestern Regional Conference Saturday, January 29, 1955, in Dallas at the Hotel Adolphus. Speakers from Cambridge: President Killian; Walter G. Whitman '17, and C. Stark Draper '26, Heads of the Departments of Chemical Engineering and Aeronautical Engineering, respectively; John G. Trump '33, Professor of Electrical Engineering and Douglas M. McGregor of Industrial Management. Requests for further information should be directed to Mr. E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas. Having usurped more space than the call of '26 rates, I'll sign off till February. — GEORGE W. SMITH, *Secretary*, c/o E. I. du Pont de Nemours and Company, Inc., 140 Federal Street, Room 203, Boston, Mass.

### • 1928 •

We presume that the general incommunicativeness of our classmates is somehow related to the virtue, Modesty. However virtuous such silence may be, it still adds to the problem of maintaining a cheerful flow of gossip in the Notes. How about writing in about some other Twenty-Eighter's you may have seen lately? Often the best notes are simple accounts of those occasions when a couple of old timers cross paths. We are certain to enjoy your news however commonplace it may seem to you. Now is the time when some of our children are setting forth on their own. In business, matrimony, to college, in the services — whatever it is, we are proud of them and like to share our pride with others. No parent is too modest to discuss his children. So why not write us about your family, maybe you will slip and even mention something about yourself.

Have you wondered, perhaps, how many in the Class have sent a son or daughter back to Tech? On checking we find that during the past eight years the following enrollments were made: 1947 — Robert M. Rubin, son of Richard B. Rubin; 1948 — Conrad D. Kohler, son of Carl J. Kohler; 1949 — Burton A. Babb, son of Maynard A. Babb; Charles D. Buntschuh, son of Henry C. Buntschuh, and Henry S. Slayter, 3rd, son of Rudolf S. Slayter; 1950 — Richard D. Tooley, son

of Douglas A. Tooley; 1951 — Robert F. Buntschuh, son of Henry C. Buntschuh; Franceline A. Cullen, daughter of James A. Cullen, and Charles B. Lory, son of Marion R. Lory; 1952 — Caroline M. Disario, daughter of Gabriel M. Disario, and John R. Reynders, son of John F. Reynders; 1953 — A. Wentworth Erickson, 3rd, son of A. Wentworth Erickson, Jr., and Richard P. Hurlbut, son of Terry A. Hurlbut. That makes 13 by our count with the prize going to Henry Buntschuh for his total of two sons. Incidentally, Charles Buntschuh stroked the varsity crew in 1953, and Robert rowed Number 7 on the victorious Henley Regatta crew last summer.

We extend our best wishes to you all and our hopes for your health and happiness in 1955 — GEORGE I. CHATFIELD, *Secretary*, 49 Eton Road, Larchmont, N.Y., WALTER J. SMITH, *Assistant Secretary*, 15 Acorn Park, Cambridge, Mass.

### • 1930 •

Greetings of the season from your class officers and the 25-Year Reunion Committee as we enter 1955! This will be our big year, with 1980 as our next big one a long way off. You have received the first Reunion notice giving the place as Baker House on the Institute campus from June 10 through the 13, Alumni Day. Wives, older children, feminine classmates, and their husbands are all included in the planning. The success of the Reunion will be directly proportional to the number of participants. Since we shall be the 25-Year Class just once in our lifetimes, please talk it up wherever you meet a classmate. Jim Holden of Akron is the new Class Agent for the Alumni Fund, succeeding Phil Holt, who has held the job since the Fund's inception. The 1955 Fund will be used to build a memorial to the late Dr. Compton and our class gift in June, which will be raised under the direction of Ted Riehl, will form a part thereof.

A new issue of the Alumni Register is being published this year, recording all present addresses and places of employment. From Register questionnaires it has been learned that four of our classmates have passed away: James Tyson, Jr., of San Francisco in July, 1952, Thomas Middlebrooks, of Alexandria, Va., and Ignatius Wojtaszak of Ludington, Mich., in February, 1954, and Philip Pinsan of Union City, N.J., in March, 1954. Our deep sympathy is extended to their wives and families. With American architecture as her special field, Louise Hall received a Ph.D. degree from Radcliffe in 1954. A fellow architect, Bob Schildknecht of Cincinnati, is on the faculty of Ohio Mechanics Institute. Myron Ridlon has the interesting hobby of raising apples in a 2,500-tree orchard in Parsonsfield, Me. He is an engineer with Lowell Electric Light. Joe Devorss is back in Boston working for U. S. Rubber Company. After having served as a managing director of a South African subsidiary, Bryant Kenney has been made a member of Standard-Vacuum Oil's board with offices at 26 Broadway, New York City. Bob Clyne is vice-president in charge of marketing for the Pressed Steel Car Company, with headquarters in Chicago. The new research director of Amer-

ican and Efid Mills of Mt. Holly, N.C., is Alan Vint. Wallie McDowell is now an I.B.M. vice-president. He attended Alumni Day last June, as did Jack Bennett, Earl Ferguson, Bill Harris, Jack Latham, Hijo Marean, Bob Phelan, Hermon Scott, George Shrigley, Joe Harrington, and your Secretary. Joe gave an address last April in San Francisco on the automatic production of electronic equipment at a symposium sponsored by the Air Force and the Stanford Research Institute. He is assistant research director for United Shoe Machinery.

Those of you who have been engaged in Boy Scout work will be pleased to know that Earl Krall has been a staff member for a number of years at national headquarters, which were moved recently from New York to New Brunswick, N.J. Frances Parker is working with the Scripps Institute of Oceanography at La Jolla, Calif. A large group of men are reported in the teaching profession: Robert Miller at Columbia, S.C., Sidney McCuskey at Case Institute in Cleveland, Jules Larrivee at Worcester Polytech, Dean Harold Roberts of Sacramento State, and Walter Soroka of the University of California, author of a recent textbook entitled *Methods in Computation and Simulation*. At least two of our classmates are ministers: Rev. William Alling of Canon City, Colo., and Rev. Wilfred Steeves of the First Baptist Church of South Amboy, N.J.

Bob Cook has come East from Pasadena to work with U. S. Steel Homes in Harrisburg, while Charlie Twelves has done likewise, leaving Bellevue, Wash., for New York City where he is working for American Telephone and Telegraph. Ernest Tauch has been transferred from Du Pont's plant in Grasselli, N.J., to Cleveland. In New York we find Morrison Broun with Otis Elevator and Charlie Gale with Amoco. George Schatz heads his own architectural firm in Cincinnati. From that city comes word that R. H. Staderman has made a legal change of name to Richard Harwood. — PARKER H. STARRATT, *Secretary*, 1 Bradley Park Drive, Hingham, Mass. *Assistant Secretaries*: ROBERT M. NELSON, 48 E. Lawrence Road, Phoenix, Ariz.; ROBERT A. POISSON, 150 E. 73d Street, New York 21, N.Y.

### • 1932 •

Probably most of you know that the 1955 Alumni Fund is to be entirely devoted to a memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. I am sure all of you who knew Dr. Compton will want to dig deep for this. But of even greater incentive is the news, which Alumni Association President Ferguson tells us in his Christmas letter, that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund!

Another class notable continues to make progress. Johnny Lawrence has been made executive vice-president of Joy Manufacturing Company. John, as we have written, has been vice-president in charge of Manufacturing and Engineering. He is being given a primary responsibility besides that normally associated with this post of giving special attention to Joy's efforts toward further diversifica-

cation of its product lines. Joy is perhaps the leading manufacturer of automatic coal mining equipment. John still lives at 46 Ordale Boulevard, Pittsburgh 28, Pa.

Rolf Morral continues as head of the X-Ray Diffraction Section of the Department of Metallurgical Research at the Kaiser Aluminum and Chemical Corporation Plant in Spokane, Wash. Rolf has many outside interests, professional and hobby-wise, and is commendably the M.I.T. Educational Counsel for the Spokane territory. He reports good success in interesting young candidates by showing M.I.T. educational films and pamphlets. He is Honorary Secretary for M.I.T. in Spokane and is certainly doing more than his share to publicize our *Alma Mater*.

To those interested in some of the new things possible with electronic computers, Minot Bridgman might be a good source of information. He is in charge of the programming and coding for electronic computer work with R.C.A.'s Bizmac and I.B.M.'s 702 in some of the major functions of business. He is Senior Procedure Analyst for Metropolitan Life Insurance Company in New York City. Phil Cooper is living in Evansville, Indiana, at 1210 S. Kentucky Avenue. He is a Development Engineer for Servel, working on design and testing of automatic air-conditioning controls. Phil has a wife and three boys and says he will be back for Reunion. Herb King, Jr., is now living in Plainfield, N.J., R.D. #2, Box 58. He is directing research on the hydrothermal synthesis of silicates. Herb lists as hobbies, golf, pottery and municipal government. I hope he hasn't neglected the piano, which he always played with such skill. Herb too hopes to make our Reunion. Had a nice letter from William Penn Gaskell Hall, who is a member of the Du Pont Engineering Department. He is on the big AEC job Du Pont has, which appears to be the largest industrial undertaking in history! Bill is still interested in figure skating and was a member of the 1940 Olympic team; also raises race horses and sails a 24 foot auxiliary sailboat. He suggests that the Class raise a fund to be given to the Course IV staff to investigate if private enterprise today is adequately rewarding engineers for ideas. I believe Bill has something there.

Arthur Jewell has been made assistant principal of Eastern Junior High School, Washington, D.C. Since leaving Tech, Art has been teaching in various schools and colleges and most recently has taught physics and mathematics at Armstrong High, where he is also assistant principal. Some of our Service graduate friends continue to make news. Paul Seleen is now Commander of the big Ordnance Tank Automotive Command here in Detroit. Latest information is that the O.T.A.C. plans to let contracts totaling \$700,000,000 in 1955, much of it in the Detroit area. Rear Admiral Lee R. Herring has retired from the Navy and is now sales manager of the Hitchiner Manufacturing Company of Milford, N.H. Lee was co-designer and co-patent holder of the main engine used in one of the latest submarine torpedoes. Captain Leroy V. Honsinger has moved from the Bureau of Ships in Washington to Commander of the Long

Beach Naval Shipyard, Long Beach, Calif.

One thing for you that live in the Southwest and others that may be traveling there in late January. There will be an all-day M.I.T. Southwestern Regional Conference, Saturday, January 29, 1955, in Dallas at the Hotel Adolphus. Speakers from Cambridge: President Killian; Walter G. Whitman '17, and C. Stark Draper '26, Heads of the Departments of Chemical Engineering and Aeronautical Engineering, respectively; John G. Trump '33, Professor of Electrical Engineering and Douglas M. McGregor of Industrial Management. Requests for further information should be directed to Mr. E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas.

All best wishes from your Secretary for 1955. Make an extra resolution, even if postdated, to send me any interesting bits of news on yourself or other classmates. — ROBERT B. SEMPLE, *Secretary*, Box 111, Wyandotte, Mich. *Assistant Secretaries*: WILLIAM H. BARKER, 45 Meredith Drive, Cranston, R.I., ROLF ELIASSEN, Room 1-138, M.I.T., Cambridge 39, Mass.

### • 1933 •

In retrospect many of our Class have distinguished themselves in a variety of ways over the last 20 years, and as a Class we have reason for some pride of group accomplishment. Among other things the Class of '33 has a comparatively good record in the Alumni Fund, both on the score of average contribution and the total given. Much of the credit for this showing goes to Lou Flanders who has willingly spent a lot of time in canvassing the Class and in the follow up. This year we will all be hearing much from Lou because the Alumni Fund Board is dedicating its entire income to the Karl Taylor Compton Memorial. Of course, those of you who knew Dr. Compton well need no "chapter and verse" to convince you of the merits of this objective. Those of you who have observed the breadth and depth of the educational program at Tech today in comparison with that of our day know that he was largely responsible for the vastly increased opportunities for present day students. And, all of us appreciate the role which Karl Compton played on the national scene, in war and peace alike, to help this country achieve its leadership among the nations of the world. And all this has redounded to the credit of every alumnus as well as to the Institute itself.

... It was no coincidence that so many of Dr. Compton's intimates spontaneously proposed a memorial to his great works as an educator, a public servant and as a rare human being. And it is little wonder that so many alumni and friends have come forward during the fall with enthusiastic support. Your officers share the feeling and the hope that every member of the Class of '33 will be proud to subscribe his share to this memorial. — GEORGE HENNING, *Secretary*, 330 Belmont Avenue, Brooklyn 7, New York. R. M. KIMBALL, *Assistant Secretary*, M.I.T., Cambridge, Mass.

### • 1934 •

Phil Kron has sent a fine letter with the following news of classmates in Rochester who had hoped to attend our twentieth reunion last June but were unable to do

so. "Roy Thompson is now married and works for the Eastman Kodak Company as an electrical engineer in the Camera Works Plant. We see each other once in a while but not as often as we should. He met Betty, his wife, at Kodak and they have been married a little over a year now. Eino Jaskelainen is also with Kodak at the Camera Works. He left the company for a short time but, like some of the others of us, has returned after finding that the other pastures were really not so much greener. Pete Barry is the real politician of our Class so far as Rochester is concerned. He is Director of Safety for the Rochester Gas and Electric Corporation but most of his time is spent as councilman for the City of Rochester. This is his second term and he has certainly been doing a big job as chairman of Public Works. He has been active in pushing the Rochester Memorial Auditorium to completion, getting action on the subway, and encouraging new industries to come to the city. Rochester is indeed fortunate to have such an aggressive and imaginative engineer so interested in its projects. Pete was also head of the Naval Reserve units in Rochester for some time but now has given that up under pressure of these other activities. Lee Rusling is one of the city's outstanding brokers. He runs the firm of Howe and Rusling, Inc., investment supervisors.

Also, a note from John Hrones to pass on the following: "I met Ray Jewett at the International Instrument Congress in Philadelphia in September. We had dinner together and it was a lot of fun seeing him. He and his wife and the Delbar Keilys had spent their vacation together cruising on Buzzards Bay. I also found out that Butch Patch, a former staunch goalie on the hockey team in my days, is now located in Birmingham, Ala., in charge of the southern region for Linde Air Products. He has a girl 17 and a boy 10. Ray and Butch's wives are sisters. Ray also said that George Best is with Davidson Chemical Company in Baltimore and is concerned with technical publications for that company."

At our reunion last June it was decided to institute regional class secretaries in order to increase the flow of class news appearing in this column. President Hank Backenstoss has received affirmative responses to invitations to serve as regional scribes from the eight men whose names, addresses, and phone numbers follow. These are given to help one and all to establish communication with the nearest regional secretary. Your Secretary welcomes with enthusiasm this strong group of correspondents and we all look forward to a continuation of the increased interest in class affairs which was evidenced last June. The list is as follows: Ed Nowell, c/o Procter and Gamble, 53 State Street, Boston 9, Mass., Ca 7-2730; home, 10 Mason Street, Winchester, Wi 6-0196. Wally Wise, Sperry Products, Inc., Danbury, Conn., DA 8-3581; home, P.O. Box 77, Newtown, Conn., Garden 6-2843. Andy Mooradian, Pacific Mills, 261 Fifth Avenue, New York, N. Y., Murray Hill 9-3750; home, 150 Burns Street, Forest Hills, N. Y., Boulevard 8-8236. Ed Asch, 5717 Kirby Drive, Houston 5, Texas, Jackson 9623; home, 3910 Drake Street,



Houston 5, Texas, Madison 9071. Ed Chiswell, California Research Corporation, Box 1627, Richmond, Calif., BEacon 2-1514; home, 2901 Forest Avenue, Berkeley 5, Calif., Ashbury 3-7080. Jim Kendrick, 15304 Sunset Boulevard, Pacific Palisades, Calif., Exbrook 3-7255; home, 2871 Forrester Drive, Los Angeles 64, Calif., Vermont 9-5955. Jean Raymond, Raymond Manufacturing Company Limited, 100 Sherbrooke Street, Lachine, P. Q., Canada; home, 3241 The Boulevard, Westmount, P. Q. Bob Ebenbach, Budd Company, Red Lion Plant, Philadelphia, Pa., Orchard 3-1020, Ext. 510; home, 403 E. Glenside Avenue, Glenside, Pa., Ogontz 0545.

Eugene Magenau and his partner reopened the firm of Lyford and Magenau in Concord, N. H., last summer. They had merged in 1951 with Anderson and Nichols whom they had served in connection with several major construction projects, one of which was the new Wyman-Gordon plant. They will continue to do Anderson and Nichols' architectural work. Raymond Sohn is living in Roxbury and toils as an industrial engineering consultant. Ray had to miss the twentieth but will be on hand for our next. Charles Zelaite is acting chief of the general project section of the Signal Corps Engineering Laboratories at Fort Monmouth, N. J. He was recently appointed chairman of the Signal Corps invention evaluation board. Gene Connelly is owner of Connelly's restaurant at 110 East 23rd Street in New York. Our information is that the decor is unique. New York residents might be able to report on the cuisine at Gene's. We have a long letter from Bob Becker to Carl Wilson written from Chile last March in response to the reunion announcement. Read this next month and learn about the life of a mining engineer. — WALTER McKAY, *Secretary*, Room 33-211, M.I.T., Cambridge 38, Mass.

### • 1937 •

Last week I flew to the Society of Automotive Engineers' meeting in Cleveland and while there had a chance to see Art Zimmerman, who is also a member of the Society and attended the banquet with our group. The next day we had a wonderful lunch get-together at a lunch club high on top of one of Cleveland's buildings. Art was there with Dick Young, Joe Keithley and Jay AuWerter (a welcomed visitor from the Class of '38). Dick is Director of Purchases for the Weatherhead Company in Cleveland and Joe has his own business. Joe has developed and is marketing a fine line of ultra-sensitive electronic voltage, ampere and resistance measuring instruments. They are so sensitive they will measure currents down to less than one trillionth of an ampere. At that rate, they will measure the voltage in a gnat's brain waves. Joe is doing very well and I would suggest that if you have anything to do with electrical measurements that you write for his literature describing the various instruments. It is really an eye-opener.

The next day after a tour through the main diesel repair shops of the N.Y.C.R.R. I again met Art Zimmerman, this time at his Company, the Steel Improvement and Forge Company, where we had a very

nice lunch at their company dining room. Art is Sales Manager there and after lunch we squeezed in a fast tour of the plant before I had to dash on to Detroit. I was there only one night but had time to call Jerv Webb. He was out that night but the following morning at about 8 A.M. I got a call from him. He was on his way to work and calling over a car telephone. He sounded as though he was really busy. He is running his business of conveyor systems, designs, installations, and so forth. I hope to have a chance to see more of him and the Detroit gang in January.

You already know that the 1955 Alumni Fund is to be entirely devoted to a memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. Now comes the news that an anonymous donor has offered to match dollar for dollar this year's Alumni Fund!

For the information of you traveling classmates and those who live in the Southwest there will be an all-day M.I.T. Southwestern Regional Conference Saturday, January 29, 1955, in Dallas at the Hotel Adolphus. Speakers from Cambridge: President Killian; Walter G. Whitman '17, and C. Stark Draper '26. Heads of the Departments of Chemical Engineering and Aeronautical Engineering, respectively; John G. Trump '33, Professor of Electrical Engineering and Douglas M. McGregor of Industrial Management. Requests for further information should be directed to Mr. E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas.

Got an awful lot of address changes over the summer but no letters for this column to explain any of them. — WINTHROP A. JOHNS, *Secretary*, 34 Mali Drive, North Plainfield, N. J.

### • 1938 •

Our news this month is all in the form of news items or releases. It just means that you fellows will have to do a little writing.

The first item announces that the mayor of New Britain, Conn., has appointed Frank Atwater to the city's Water Board. This is Frank's first public office. Those of us who are out of touch with Frank will be interested to know that the Atwaters have three children: Mary Jane, Sally, and Brian.

LaVerne Woerner has been appointed technical assistant to the president of Automotive Rubber Company, Inc. Another chemical engineer is in the news. Chuck Jahmig of the Standard Oil Development Company is co-author with Dr. F. T. Barr of a paper on "Fluid Coking and Fluid Coke." The paper was presented before the New York Section of the American Institute of Chemical Engineers. — DAVID E. ACKER, *Secretary*, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge, Mass.

### • 1940 •

The news this month is relatively brief. Mason Lindsey has been made administrative assistant to the vice-president in charge of research and development of the American Viscose Corporation in Marcus Hook, Pa. Mason has been with American Viscose since leaving Tech, ex-

cept for a period of four years service as an officer in the Navy during World War II. Richard Orth has joined the Westinghouse Electric Corporation as vice-president in charge of its electronic tube division. Bill Donovan has formed his own engineering and sales organization, the William J. Donovan Company at 62 LaSalle Road, West Hartford, Conn. The new company offers specialized engineering and consultant services in the refrigeration and air-conditioning fields and is also the sales representative for several prominent manufacturers in these fields.

Attention of all classmates who will be in the vicinity of Dallas, Texas, on January 29, is directed to the M.I.T. Southwestern Regional Conference, to be held at the Hotel Adolphus on that day. Among the speakers will be President Killian, Professor Whitman, Head of the Department of Chemical Engineering, Professor Draper, Head of the Department of Aeronautical Engineering, Professor Trump of the Electrical Engineering Department and Mr. McGregor, of the Industrial Management Division. Further information about the conference can be obtained from Mr. E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas.

Each dollar you contribute to the Alumni Fund will work double this year. An anonymous donor has offered to match dollar for dollar of this Alumni Fund. The entire Alumni Fund in the coming year is to be devoted to a memorial to Dr. Compton, the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. In view of the purpose of this year's fund, I am sure that many of you who will recall Dr. Compton from our first association with him at Freshman Camp 1936 until our graduation from Tech in 1940 will want to make as large a contribution as possible, so that the Memorial will indicate our appreciation of the splendid job Dr. Compton did as president of the Institute. Nothing further on the Reunion, but I am hoping to hear from Bob Bittenbender shortly, so that further details can be supplied in the next column. — ALVIN GUTTAG, *Secretary*, Cushman, Darby and Cushman, American Security Building, Washington 5, D. C. MARSHALL D. MCCUEN, *Assistant Secretary*, Oldsmobile Division General Motors Corporation, Lansing, Mich.

### • 1941 •

Happy new year to all! And let resolution number one be to write the Secretary something about what you're doing these days. This column gets pretty thin with only the clippings to live on, as is the case this month. George R. Griffin, a graduate student and an A. D. Little Research Fellow in Chemistry, has been named chairman of the Division of Chemistry at the Lowell Technical Institute. Dr. Griffin has been with the Dewey and Almy Chemical Company in Cambridge for the past six years, and prior to that he spent three years with the American Cyanamid Company in Stamford, Conn. Harry Wasserman, having received both master's and doctor's degrees from Harvard, was appointed to the faculty at Yale in 1948 as an instructor in chemistry, and in 1951 was made assistant professor. The



Alumni Office reports the death of Jerry Denslow, X, of Wahiawa, Oahu, T.H., in March, 1953; no other details were available. An item of general interest: the 1955 Alumni Fund will be devoted entirely to the Karl Taylor Compton Laboratories for Nuclear Science and Electronics, and further, an anonymous donor is offering to match this year's Fund, dollar for dollar. It thus becomes doubly important for each man to give generously, both in tribute to a great leader and friend to us all, and in the knowledge that every dollar given this year means two dollars for the Fund. So, when Reid Weedon's letter comes, dig deep. — IVOR W. COLLINS, Secretary, 28 Sherman Road, Wakefield, Mass.

## • 1942 •

The safari story continues with Part II of III parts — Ronald Shainin, his fellow-engineer, John Chisholm, drugs, cameras, firearms, trailer and jeep took off from the southern end of South Africa and headed North.

"We walked into the veranda of the English trader at Katima Mulilo and told him what we planned to do. Sitting there was a skinny, yellow-complexioned fellow with a sandy beard down to his chest. He looked like an old man but he turned out to be 26.

"Don't you think you should have an experienced hunter with you?" he asked. I said, 'Yes, but we haven't been able to find one.' Then he said in effect: 'I think you guys are crazy but I'll go with you to keep you from getting killed.'

"This was Dudley Webber, the trader's nephew. He hated civilization, which in Katima Mulilo consisted of about 30 whites and natives. He stopped there only long enough to get supplies before going off into the bush again. His specialty was elephants, which he hunted for ivory.

"He joined us with only the clothes on his back and his rifle, lighter than ours, a .303 British Enfield, and sack of rice. He lived on meat and rice, hated a balanced diet.

"The first thing he did was to tell us to throw away our pressure gas stove (natives build cook fires), our laundry tub (our only luxury for bathing), our canteens, knapsacks and camp chairs.

"Three or four days later we were hunting south of the Matabele Plain. This is a rolling terrain with patches of trees and forest, something like Delaware Park. There are no whites in the area and few natives. We hired native cooks, trackers, skimmers, water boys, fire boys and handy boys — each at 14 cents a day.

"Our first kill was a lioness, a member of a pride, as a group of lions is called. We found the pride tearing apart a zebra carcass we had put out as bait. When we appeared, they began to trot off. I knelt down and picked out the biggest lioness. I dropped her at about 40 yards with a spine shot. The others retreated into the forest and kept grunting for the lioness. Lions are very loyal.

"This lioness measured 8 feet 4 inches from the tip of the nose to tip of the tail. Ever since I was 12 years old I had dreamed of shooting a lion — and I had finally done it.

"The same day, just before supper, John

shot his first lion in the same area. It was another lioness, sitting about 120 yards away and looking at us. John shot and killed her with one bullet. This one measured 7 feet 7 inches.

"About this time we shot a leopard under unusual conditions. They are normally jungle animals, but we saw this one walking in a burned-over area in broad daylight. We followed him to tall grass and flushed him from within five feet. John wounded him and he eluded us. We walked to within 10 feet of him a second time, then John finished him. We learned how well big cats conceal themselves.

"Our next experience with lions occurred in darkness. We were sitting around the camp-fire waiting for the cook boy to serve supper. We heard a solitary lion roaring in the northeast quadrant.

"Our boys said the roaring came from an old rogue male that had killed several head of their cattle. Their eyes bulged a bit as they told us that if we left camp that night to inspect our baits to the west, as we planned to do, they would desert. Africans, however, show a great confidence in the white man and his high-powered rifle. Dudley, John and I set out in our jeep. A compass bearing on the last roar had told us to go due east. Once under way our compass was useless because of the deviation caused by the metal in the jeep, so we guided ourselves by the stars.

"We heard our quarry roar again from about 40 degrees south of the Southern Cross. We held our heading through a patch of mopane forest. Our lights picked up a pair of eyes to the left — a gray duiker. A little further on, more eyes. This time a jackal.

"Now we saw a large brown form in the open plain ahead. No eyes reflected our sealed beams. We reckoned it to be a bush. But then our bush stood up and walked off on four chunky legs!"

(The conclusion of Mr. Shainin's safari will appear in the February issue of The Review.)

Word from American Brake Shoe Company tells us that Robert J. Ely has been appointed assistant chief metallurgist. Bob joined the Company in 1945 after three years as a field artillery observer pilot in North Africa, Sicily and Italy. He is married to the former Virginia Corning and they have two children. Bob and Virginia live near the American Brake Shoe research center in Mahwah, N. J.

A feature article and photograph in the *Hampshire Gazette* of Northampton, Mass., tells about the research work of Dr. Irving Fagerson, Professor in the Food Technology Department of the University of Massachusetts. Irv is designing tests for taste testers so that he can set up a panel for judging the "off-flavor" effects, if any, of a variety of insecticides used on apples, squashes, and other foods. His war-time activities included work with the War Food Administration and malaria control duty (the latter in the South Pacific). At the end of hostilities he did graduate work and secured his Ph.D., after conducting many basic studies on the preparation of food containers and preservative properties of various types.

Dr. Edward H. Thode has recently joined the staff of the Central Research

Department of the Minnesota Mining and Manufacturing Company in St. Paul. Ed had previously been associate professor of chemical engineering at the University of Maine where his field was research on the properties of wood pulp. He has written several papers in this field.

On the local front I have been well occupied with engineering and production problems on the recently published *The New Testament in Cadenced Form*. This elegant new method of prose presentation is particularly well suited for The Bible and is most effectively composed on the photo-composing equipment we have been working on. Happy New Year and lots of good wishes for 1955! (Don't forget the Southwest Regional Conference, Saturday, January 29, 1955, in Dallas, Texas. Our Ed Vetter has all the details. — Geophysical Service, Inc., 5900 Lemmon Avenue, Dallas, Texas.) — LOU ROSENBLUM, Secretary, Photon, Inc., 58 Charles Street, Cambridge, Mass.

## • 1943 •

Continuing in the class tradition of novel birth announcements was the pink card I received this week which has a little package of sugar and spice clipped to it, followed by the words "n everything nice," announcing the birth of Diantha Peck Cooley McCarthy on October 29, 1954, daughter of Mary and Walter McCarthy of Seattle, Wash. This most original note deserves high praise, and our congratulations to the happy parents. On September 25, 1954, Jean Stewart Price and Frederick S. Dickson, III, were married in the Church of the Ascension in New York City. The bride was graduated from Nightingale-Bamford School and attended Katharine Gibbs School. Fred attended Trinity College in Hartford, and was in the Navy for three years after graduating with our Class. John Harsch was married on July 17, 1954, to Jean Audrey Sartorius at Interlaken Inn, Lakeville, Conn. Mrs. Harsch is a graduate of Swarthmore College and the Radcliffe College Management Training Program. John recently returned to Tech for his Master's degree. The couple will reside in Naugatuck, Conn.

Ben Crocker spoke at a meeting of the Camera Club of the Providence Engineering Society in September, where he presented colored slides, a motion picture entitled "New England Adventure," and told what, where and how to photograph in New England. Ben took his aeronautical engineering degree with our Class, and is with the Chance Vought Aircraft Company. He won the 1954 color slide and motion picture competitions of the Boston Camera Club, of which he is vice-president, and is an associate member of the Motion Picture and Television Engineers. The Draper Corporation of Hopedale, Mass., recently announced that Charles E. Burnham has been appointed assistant chief engineer of the company. Charlie has been with Draper as a research engineer since 1946. I have received over one hundred change or confirmation of address forms from the Alumni Office, sent in by classmates with their Alumni Register information cards. It is heartening to know that so many of us are interested in seeing that this forth-

coming publication is up to date. It would be even more pleasurable to receive news directly from the gang for inclusion in these notes.

For those who live in the Southwest, there will be an all-day M.I.T. Conference on Saturday, January 29, 1955, in Dallas, Texas, at the Hotel Adolphus. Requests for further information should be directed to E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas. The 1955 Alumni Fund is to be entirely devoted to the Laboratories for Nuclear Science and Electronics to be named for our late President Compton. The news that an anonymous donor has offered to match dollar for dollar our contributions to the Alumni Fund this year should be an inspiration to us when we send in our checks. Think about it. — RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

### • 1944 •

By the time this is read I expect Dick Cavicchi will have retired from bachelorhood and embarked on that new career called marriage. Dick writes.

"Last June I failed to attend our reunion 'tho I had previously expected to do so. For I had even sent my \$5 to cover costs of the sending out of literature pertaining to the event. My excuse is reasonably good, for I was in the throes of what terminated in my becoming engaged a month later — 10 July 1954. January will probably be the date of the wedding. At Cleveland, I am a turbine research engineer with NACA, having been on this job since 1948. For the past five years here, I have been studying in the evening division of Case Institute of Technology. After seven years out of competition, I worked out on the track six or seven times last spring. I was able to break the world's records in the 50, 60, 100, and 220 yard dashes — (for women). The Dutch housewife's 24.2 second 220 was toughest for me to beat; after trying it twice, I finally kicked in with a 23.8 second effort. When I left Tech, the M.I.T. record was 21.7 seconds. I ran a 6.5 second 60, which is 0.8 sec. better than the record. After having proved I could outrun any woman in the history of the world, there were no more laurels to seek so one woman ended in a dead heat with me. This brunette was graduated from Vassar in 1950 and from Yale Divinity School in 1953. She is Mary Anne Dameron of St. Louis and is Director of Christian Education in the local Methodist Church. I hope to see some news of Bob Meny in the Technology Review. Got any? Regards, Dick Cavicchi, 2-44 1640 Wooster Road, Rocky River 16, Ohio."

Al Picardi with Kaighin and Hughes, Inc., in Toledo as chief structural engineer has just had a paper published in the August issue of *Petroleum Processing* entitled "An Improved Method for Designing Tower Anchorages." Al was at the reunion and is married and has two boys, one girl, and is currently living in Detroit. A clipping came in from the Houston, Texas, *Chronicle*, announcing that Larry Biedenbarn has been appointed assistant professor of physics at Rice Institute in that city. I haven't heard from Larry, but I do know that he did research at Tech

then worked as a physicist at the Oak Ridge National Laboratory before moving on to Yale University.

Free golf balls for the Class of 44! Bill Bommer was appointed assistant manager of the Golf Ball Division at the Acushnet Process Company plant at New Bedford, Mass. Bill has been employed there since discharge from the Army and has served as assistant factory manager and chief engineer. He married Shirlee Collins of Newton, has two daughters and is living in South Dartmouth. While planning the reunion I spoke to Rog Freeman who is living in Providence, R. I., and working for the Manufacturers' Mutual Fire Insurance Company as vice-president and assistant secretary of the policy department. Rog was unable to attend because of a sales meeting the same week-end but he said that the reunion Committee put on a live wire selling campaign with excellent follow up. Rog is married and has four children, two boys and two girls, the eldest child being 10 years old. One of the few remaining bachelors is Tom Dolan and he claims he won't succumb for some time. Tom lives in the next town, Wayland, and is surrounded by golf courses where he annually loses too many golf balls. When not hunting golf balls Tom finds time to be a technical supervisor at the Boston Woven Hose and Rubber Company in Cambridge. Remember the odor of rubber at Tech? That's where it came from.

The other night my wife had me putting in a kitchen gadget called a "K-Venience" and I wondered who would dream up such a contraption. She blithely told me "a Tech man," and she was right — Herb Knappe. Herb is with the Knappe and Vogt Company in Grand Rapids, Mich., making that line of space savers. Herb and his wife Glenna were present at the reunion but managed to leave their three children back home. Pete Boucheron was at Lenox and he is with G.E. in Syracuse as a project engineer working on television broadcast equipment. Pete is married and has three children — a girl 10, and two boys seven and two. While traveling Pete has met Al Brogle and Stan Berinsky at the Signal Corps Labs in Fort Monmouth, N. J. Herman Harjes is at the American Can Company and Bob Barnaby at National Broadcasting Company. At Monsanto in Springfield we find Chet Woodworth doing research work in the plastics division. Chet showed up at Lenox with his wife Doris. I visited Larry Button at the Fenwall Labs in Ashland, Mass., where Larry is a project engineer. I found the tour most fascinating as the workers were manufacturing and packaging blood transfusing equipment that had to be handled under absolutely sterile conditions. Larry developed the system to meet the standards of the Medical Corps. Larry is married, has three children, and living in Medway, Mass. — BURTON BROMFIELD, *Secretary*, 72 Woodchester Drive, Weston, Mass.

### • 1945 •

Happy New Year, or should we more appropriately say Happy Reunion Year, for we shall be celebrating our joyous 10th in just about five months. I know it is hard for you to realize that you have

been away for 10 years, but it is true; plan to "revive" this June. Our 10th reunion commences upon arrival, Tuesday, June 10, at the Hotel Curtis, Lenox, Mass., and will last through mid-afternoon Sunday, June 12, when we hope many of you will journey on to Boston for Alumni Day activities at the Institute the next day. Co-chairmen Dave Trageser and Dave Hewson will greatly appreciate reunion suggestions by you all. Why not forward them to Box 1945, Medfield, Mass., with your registration fee? To assist your reunion committee in beating the bushes, various area chairmen throughout the country will personally contact you in the very near future. Appointees are as follows: Greater New York: Bill Blitzer; Bill Loeb, and Hal Thorkelsen; Mid-Atlantic: Bill McKay, South: Ed Stolz; Pittsburgh: Class Agent, Al Exenham; Cleveland: J. J. Strand; Chicago: George McKewen; Southwest: Nick Mumsford; West Coast: Vince Butler; Roving Ambassador: Tom Stevenson.

No news from the field since writing our last notes, but address changes received by the Alumni Register are numerous. In fact, too numerous to list here. If anyone desires addresses of fellow Alumni, please contact the Alumni Office.

We welcome the reaffiliation with our Class of Phil J. Pocock, Jr., of Ottawa, Canada. For you travelers, and classmates in the Southwest, we have been asked to report the all-day M.I.T. Southwestern Regional Conference in Dallas, Texas, at the Hotel Adolphus, Saturday, January 29, 1955.

Remember "man cannot live by love alone," and neither can your Class. If you have not already done so, send along your \$5.00 to M.I.T. Class of 1945, Box 1945, Medfield, Mass. — CLINTON H. SPRINGER, *Secretary*, Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York 17, N. Y.

### • 1948 •

Ken Brock, writing from Fort Dix, reported that he will be leaving the Army on February 19 and that he is patiently counting the days. He also passed along the information that the John Kaymens have become the proud parents of a baby girl, Amelia Hewitt, born October 23. News of another birth came from Chicago. A daughter, Heidi Jan, was born on September 17 to the Chuck Lichts. Our congratulations to both families.

Ken also sent a series of letters he had received during the early part of the summer, hoping that we might be able to include them in the next issue. After editing out the no longer timely matter, we quote as follows:

"A quick thumb-nail sketch of what I've done since departing ye olde ivy environs: four years with Wagner Electric, in automotive engineering department (hydraulic and air brake manufacture), one and two-thirds years since then with Sunnen Products (automotive service tools and honing machines). All of this has been in St. Louis. Got married 12/28/52. Results: twin boys, nine months old, as of now." This was part of the letter from Bob Hanpeter. Howard Finkel writes as follows: "I have been back in the Navy since November, 1951,



and at the present time am looking for a five year contract. The entire two and one half years have been spent instructing naval officers. May 1, 1952, I made Lieutenant and the same day was transferred to the Damage Control Training Center which is located adjacent to the Naval Base in Philadelphia. My sporting days are about over; darts and bowling are now more my speed. The two boys keep me pretty busy along with a house in Woodbury. The hours here are good and the duty falls only every third week. All in all I like it fairly well. I now have about eight years of active duty and am getting paid for twelve. I may try to stick it out for twenty."

Harry Meyer writes, "My own history since leaving Tech has been somewhat prosaic but nonetheless interesting to me. Until May of 1951 I was employed as an industrial engineer at the Maytag Company, Newton, Iowa. That was a really good deal in many ways. There was a good, small town life, a well-managed medium-sized company, a good job to see the whole operation of the business from, and numerous other things. However, I decided that I wanted to take a crack at some Industrial Relations work too. So a chance came up to work with Minneapolis-Honeywell in the Personnel Department. It seemed like an ideal set-up in many ways. They were looking for someone with an engineering background to handle engineering personnel problems in job evaluation, salary administration, and certain aspects of labor relations. It is rather a unique situation since the 1400 engineers and technicians are unionized. It is interesting again because the work takes me into top management circles and allows a good overview of the entire operation, but particularly from the personnel and engineering viewpoints. Currently I am in the process of becoming the "expert" on the various aspects of engineering compensation in addition to a miscellany of other duties. It keeps me busy and happy and compensates fairly well, so I guess I'll keep plugging at it for a while at least.

"My family now consists of my wife, four year old Janet, two year old Ellen, and Scuffy, the cocker spaniel. We are expecting again this winter. My hobbies seem to be confined largely to home-remodeling, decorating, and all that goes with improving a 30 year old home. Although the house was just fine when we moved in two and one half years ago, we seem to keep finding things to be done. So if you need a good painter, carpenter, electrician, tile-layer, plumber, or general handyman, just give me a buzz." We'll do that, Harry, and if you people enjoy these letters, possibly it will induce you to put on paper a few notes about yourselves and send them on to us for publication.

We have news from Boston that Nichols Caldwell has been appointed vice-president in charge of sales at the Wigglesworth Machine Tool Company there. Another new officer in his firm is George Macomber, who has been elected vice-president and assistant treasurer of the George B. H. Macomber Company, builders, of Boston. You will remember that he was a United States representative in the 1948 Olympic Games as a member of

the ski team. Army Colonel Alden P. Taber is the new commanding officer at Watertown Arsenal. He formerly headed the Ballistics Research Laboratories and research-materials branch of the Ordnance Department. A new course being included this year by the University of Delaware's extension division, "Introduction to Weather," will have as its instructor, George L. Collins, meteorology engineer with the Dupont Company. He was instructor of physics at Ohio and Cornell Universities and taught meteorology at the Pan American Airways Pilot School. He also did work for A. H. Glenn and Associates. Seymour Jarmul has been appointed associate architect in the firm of Samuel Paul, Jamaica, Queens. He has been called in as an expert in the building of fireproof high-rise elevator apartment buildings being undertaken by that firm. Mr. Jarmul, who lives in Westbury, Long Island, has been engaged in architectural work for the past 10 years, specializing in multi-story rental projects, and working closely with the New York City Housing authority during former professional connections. In addition to the multi-story structures the firm is also designing single family houses. — WILLIAM R. ZIMMERMAN, *Secretary*, 4510 Leshner Drive, Dayton, Ohio. RICHARD H. HARRIS, *Assistant Secretary*, 26 South Street, Grafton, Mass.

#### • 1951 •

May I begin the new year by wishing all of you a very Happy New Year? About three and one-half years have gone by since we left Tech. In 18 months we will have our 5th year reunion — more on this later.

More news on the marital front: Harvey Hopkins, Jr., to Lucy T. Small in July at Hartford, Conn. Harvey is one of several Tech men at the Pratt and Whitney Company in East Hartford. Ed Ingraham and Mary R. Counihan said "I Do" at Salem in October. Ed is associated with J. C. Penney Company at Springfield. Joe Puccia and Catherine M. Sheild were married in September at Warwick, Va. Joe is working for the Sea Beaver Corporation at Old Greenwich, Conn. Chuck Murphy and Alice E. Dority said "Yes" in October in Boston. John Rabbott, Jr., and Nancy M. Fanning became Mr. and Mrs. in July at Waterbury, Conn. John is an aeronautical engineer at the National Advisory Commission for Aeronautics, Hampton. Sam Rubinovitz took Phyllis A. Silverstein as his wife at Manchester in August. Sam is presently with the Transistor Company in Waltham, Mass. Best wishes to you all!

Mark Franklin, writing from San Diego, reports: "I was recently transferred from Portsmouth, N. H., to Naval Repair Facility at San Diego. My present work is to organize and install a Production Planning and Control Program which is an Industrial Engineering Program set forth by the Bureau of Ships. To study the program, I took a trip to Hawaii for three weeks to analyze the program as set-up at Pearl Harbor. In October we will be indoctrinating over 200 civilian employees as to what the program is, and how it will benefit them and the Navy. In January we will begin active installation of the program under the guidance

of the Bureau of Ships. Howie Levingston jotted down a few items to help your Secretary. "Hal and Connie Siegal are still living in Silver Springs, Md. Hal has been with Erco (Engineering Research Company) in Washington since graduation. Jay Gilmore has separated from the U. S. Army and is now an industrial engineer with Macy's of New York. Bob White is with Electric Boat here in Groton and expects to be married soon. Tony Tabak was with the U. S. Army at Frankfort Arsenal. I left Iowa and the AEC in July to get back to my native New England now I am a metallurgist with the Electric Boat Division of General Dynamics."

Hank Girouard joined the High Pressure Section of Atlas Powder Company's Central Research Laboratory near Wilmington, Del. Hank Marsh was assigned (in September) to the Small Arms Ammunition Department at Frankford Arsenal (Philadelphia) as a chemical engineer. Prior to his Army service, Hank worked for the Hercules Powder Company's Experimental Station at Wilmington, Del. Dr. C. Wheaton Vaughan has joined the Organic Chemical Department (Jackson Laboratory) of Du Pont at Wilmington. Dave Grossman returned to the U. S. in September after completing a year's study in Europe under a Fulbright scholarship. Dave studied Italian at Perugia and visited many parts of the country studying reconstruction and working with Italian architects. He is now doing disaster reconstruction work for the State of Rhode Island. The IBM Business Machines (for all IBM employees) for October featured a major story concerning Pete Spatz. Pete directs a small group of engineers working on the development of magnetic cores as high-speed memory units for a future giant electronic "brain." A few years ago he worked in the design phase of electrostatic memory units (cathode ray tubes) for the IBM 701 type Electronic Data Processing Machine. Pete joined the IBM Laboratory here in Poughkeepsie in June, 1951.

Gerry Burns took advantage of a week's vacation in September to make a swing through the East visiting some of the '51ers liberally sprinkled around the Eastern Seaboard. We hashed over some of the old times and exchanged news items on the Class. Gerry is working for GE at their "jet" engine plant in Cincinnati. He reports that Eleanor Semple is also with GE in that area and that Denny Spangler is still with the Navy at Trenton, N. J. In October, Irene and I visited the Audio Fair at Hotel New Yorker. Last year I commented that I did not see any EE men at the fair. This year I was pleasantly surprised to find Marv Grossman as an exhibitor for Hermon Scott Company of Cambridge, Mass. (makers of quality high fidelity equipment). We managed to mix "Hi-Fi" talk with M.I.T. news. Marv joined this company after completing his work at the Harvard Business School last February.

Recently your Secretary visited M.I.T. in conjunction with an assignment for recruiting engineers for employment with our manufacturing organization here at Poughkeepsie (IBM). We are interested in good EE men (major: Electronics).

Art Wasserman and I arranged a short get-together in the evening to discuss '51 affairs. The big item on the agenda was a discussion of long range plans for our 5th year Reunion. More information will be given in the future. Art is back at M.I.T. for further study. Roy Niemela after completing his work at the Industrial Management School began delving deep into the intricacies of Economics. Herb Woodson and Jack Carpenter are teaching at Tech. Mike Rivas is working for the DIC section at M.I.T.

A word about the 1955 Alumni Fund which is to be entirely devoted to a memorial to Dr. Compton: the Karl Taylor Compton Laboratories for Nuclear Science and Electronics. I understand that an anonymous donor has offered to match dollar for dollar the contributions received this year. Let's all pitch in to help make this year's fund a record one.

For the '51ers in the Southwest area. On January 29, 1955 there will be an all-day M.I.T. Southwestern Regional Conference. Some of the speakers: President Killian, Professor Walt Whitman (Chemical Engineering), Professor Draper (Aeronautical Engineering), Professor John Trump (EE) and Professor McGregor of Industrial Management. More information can be secured from Mr. E. O. Vetter, Geophysical Service Inc., 5900 Lemmon Avenue, Dallas, Texas. — STAN MARCEWICZ, c/o The Lorraine, Route 2, Highland, N. Y.

### • 1953 •

Sunday night in Korea — the movie tonight was a T.V. short which has been seen by us at least twice before the evening's showing. After seeing the first reel I was in no mood to see that so called "All American Girl," Marilyn Monroe, as a guest on that highly intellectual Jack Benny Show. So I decided to get back here to my quarters and spend a little time compiling the classnotes. And what do I find when I begin to gather the notes together — everybody is getting married. This time I think I'll arrange the marriages in chronological order taking for this issue the marriages during the months of May and June. John Stewart and Harriet Mysterly were married on May 8 in New Rochelle, N. Y. Harriet spent some time at Mt. Holyoke College and graduated from the Massachusetts General Hospital School of Nursing. The abbreviation "Lt." appears before Jack's name so one might safely conclude that he's spending a couple of years in the Service — the Air Force.

Nancy Dickey and Dick Ceisluikewicz were married on May 27. Nancy's grandmother had a fractured hip at the time of the wedding, but she appeared with a smiling face in a wheelchair to offer her congratulations to the newly-weds. At the time of the wedding, Nancy was a senior at Lesley College and Dick appears to

have donned that familiar O.D. uniform. Also on the list of May weddings was that of George Dyer and Anne Marie Madone. The Dyers were married in Salem, Mass., and after the wedding trip they settled in Milwaukee, Wis. Anne is a graduate of St. Elizabeth's Hospital School of Nursing.

Barbara Ann Geathard and Roy G. Salaman were married on May 27 in Troy, N. Y. Barbara attended the University of Georgia and Katharine Gibbs School in New York City. Richard is with the TV-Radio Research Department of Westinghouse Electric Corporation. Ed Healy and Nina Annette Provencher just missed the June rush. They were married on May 31 in Contoocook, N. H. As I read over the clipping concerning Nina and Ed's wedding, I noted Nina's graduation from the Jackson Von Ladao School of Fashion. Furthermore she designed and made her own going away clothes and the gowns for the wedding — quite an accomplishment.

As per usual Cupid's volume of business rose in June. I have always wondered why the month of June was such a popular month for marriages. Well, anyway, the traditionalists include Stuart Solomon and Roberta Sara Horne (Smith College, 1954) and Richard M. Mandel (M.S. in Chemistry, 1953) and Abby Iva Evarts (also Smith, 1954 — I think I'll have to make a little "recon" of this place called "Smith" upon returning; the women there must have something). Richard and Abby spent their honeymoon in Bermuda — not too tough! There is one more: Lawrence E. Cooper and Hazelle A. Lamoureux. Mrs. Cooper attended Emerson College and graduated from the Bryant College.

You may recall the mention of Jim Zurbrigen's marriage in a recent issue of The Review. I received a letter from Jim early in October. He is an installations engineer at Walters Air Force Base, Mineral Wells, Texas. His somewhat oversimplified characterization of his job: 10 per cent coffee, 10 per cent work, 80 per cent paper. Right now the Zurbrigens are making an effort to furnish their home, and by the time you read this article, there should be a little Zurbrigen in the household. Jim's words on Texas are very reminiscent of Dad's: Hot, dusty, windy and full of Texans. Well, folks, that is it for this month. — VINSON W. BRONSON, JR., 33 Wooster Heights, Danbury, Conn.

### • 1954 •

While Boston isn't in the center of the country, a few of the Class do manage to get through. Sam Losh, Phil Perry, and Jack Farquhar were up here one week end as were Ron Lovasz and Jim Dwyer. Jack and Phil are still at the Practice School in Oak Ridge while Sam is with R.C.A. in Harrisburg. Jim Dwyer is working in Philadelphia. Charlie Burnham and Larry Holmes took time off from their

studies to attend Coley Bresee's wedding to Jan Oakson in Montclair, N. J. I understand Al Ward was also there. Miss Charlee Werner was scheduled to become Mrs. Dick Wallace on November 27.

Chuck Masison sent us a letter which I would like to enclose. It is intended for every member of the Class: "S.T. and U. — Who is S.T.: Simply, he is a representative of the Provident Mutual Life Insurance Company of Philadelphia. That's not unusual, there are virtually millions of insurance salesmen, and he is similar to all the rest; he is trying to sell you something. By careful application of the scientific method, you would well reason that he is selling life insurance. Why especially to you? Unlike most life insurance transactions, the one that S.T. is selling involves five parties; S.T., U, B, M.I.T., and the Class of 1954. S.T. wants to sell a policy to U. Who will benefit from this transaction? (1) S.T. will benefit; he has made a sale. (2) U will benefit; he has acquired life insurance and may derive some inward pleasure from the benefits to 3 and 4. (3) B is the beneficiary; he gets the *benefit payments* in case of the death of U — this is important, B gets all the benefit payments! (4) M.I.T. gets the yearly dividends (which are similar to interest on an investment), after a wait of 25 years, because of the kibitzer. (5) The Class of 1954 gets all the yearly dividends from its Class Alumni, which go into its fund to be used as a gift for M.I.T. at the 25th reunion of the Class — its use by M.I.T. to be stipulated by the Class. (For example, it could be used as scholarship aid.) On looking this over you see that the first two individuals are most important, S.T. and U, and U have the first move! Write Stanley Turner at 30 State Street, Boston, Mass. A final word — this past June I purchased some insurance on this plan from Mr. Turner. I think it is the least I can do as an Alumnus of M.I.T. It is one plan of helping our *Alma Mater* that helps several others. No one asked me to write this, and I have no idea how successful the plan has been this year, but I thought I'd throw in my two cents worth. Signed, Charles Masison."

Dave Vogel, wife, and son are in Madison, Wis., awaiting active duty. Bill McTigue, by the way, has left the Boston area and is en route to Fort Belvoir. Dale Rice and Don Marshall are out at Cal Tech. Don by the way was married in October to Barbara Allen of Hingham, Mass. Joe Pennimpede also had an October wedding date, marrying Lois Lindberg of Arlington, Mass. George Thurlow is working for Sylvania in Salem, Mass. Andrew Kariotis is in Washington, D.C., employed by Sprague Electric. I also understand that Dave Dennen is in Indianapolis working for Eli Lilly and Company. — DAVID R. WONES, Assistant Secretary, 37 Bay State Road, Boston 15, Mass.



# *Gifts by Will*

## TO THE Massachusetts Institute of Technology



The Institute emerged from World War II with a twofold financial problem. First, there was the immediate need for capital funds to finance the important conversion to peacetime activities in preparation for the many new responsibilities and opportunities which lay ahead. This need was met through the \$20,000,000 Development Drive, the successful completion of which provided many urgently needed additions to plant and facilities and underwrote the Institute's educational program with a new strength and independence.

The second aspect of the Institute's financial problem is the need for sufficient new funds to guarantee the continuing support of its long-range program. This need must be met by grants from industry and foundations, by current gifts, and by bequests from individuals.

In the past, bequests have provided a very large part of the endowment and building funds which have been established and are helping to maintain many of our valuable educational institutions . . . To safeguard the future of M.I.T., the number of "Gifts by Will" from Alumni and friends must be increased.

M.I.T. invites you to consider the opportunities for worth-while achievement in the years to come by including the "Massachusetts Institute of Technology" among those to benefit from the accomplishments of your life.

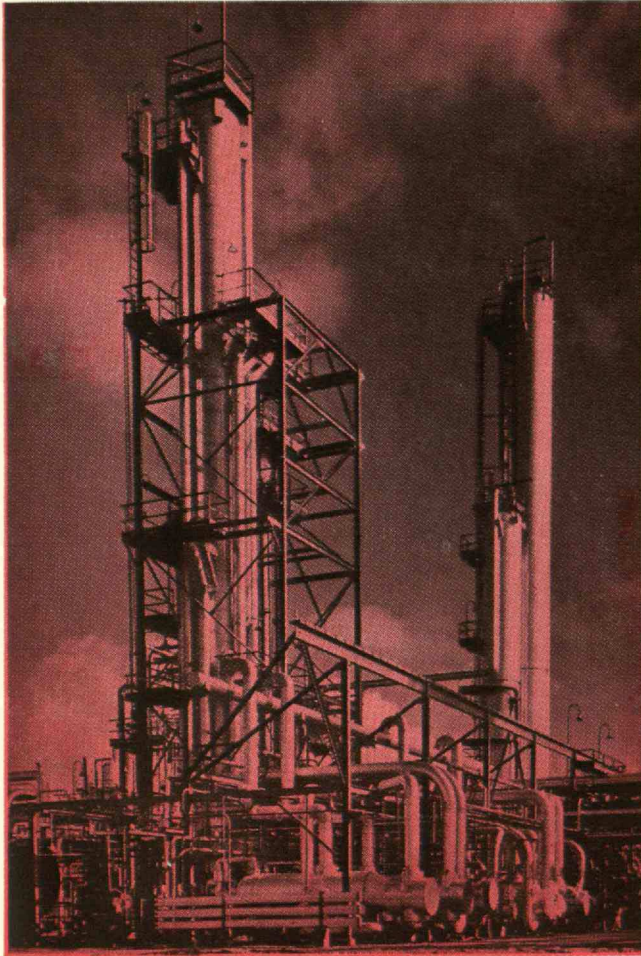
A booklet "Gifts by Will," outlining different forms of bequests to M.I.T., is available to you or to your attorney by writing to:

M.I.T. Development Office  
Massachusetts Institute of Technology  
Cambridge 39, Massachusetts

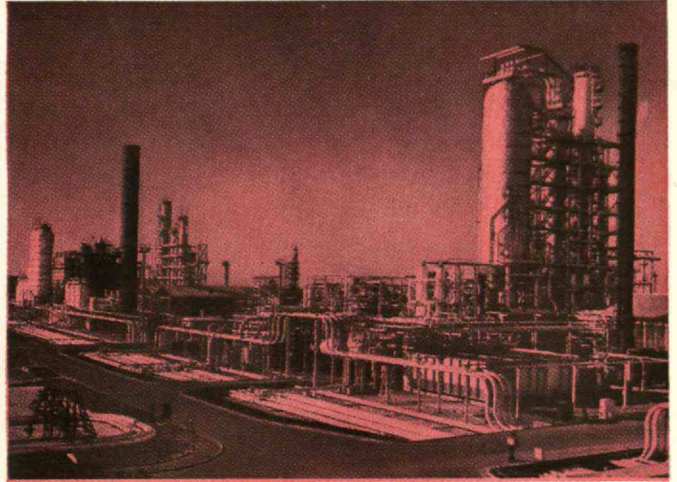


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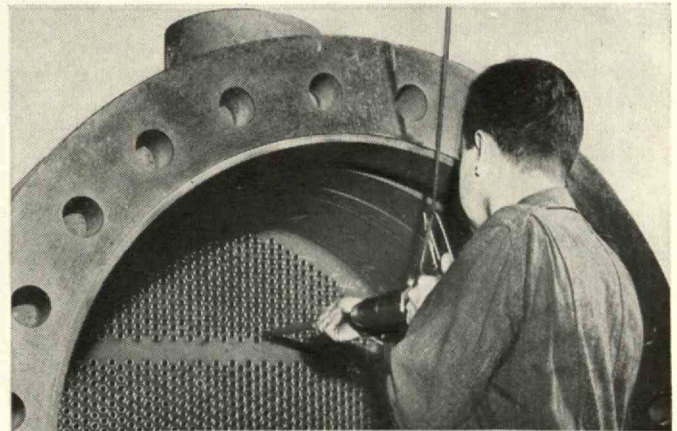
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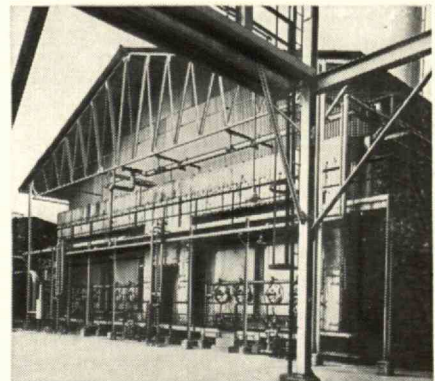
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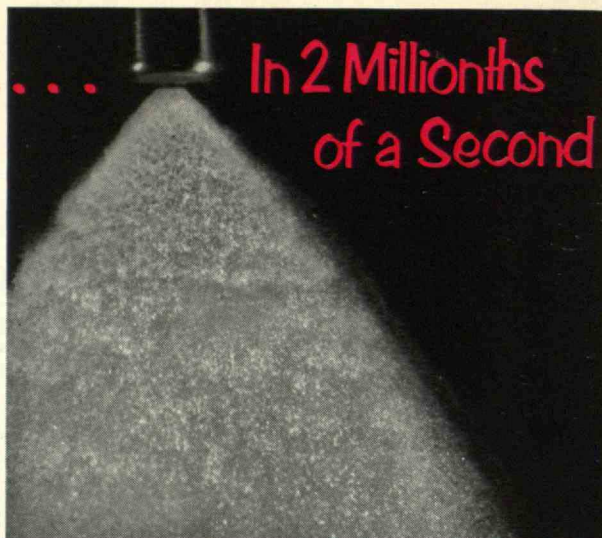
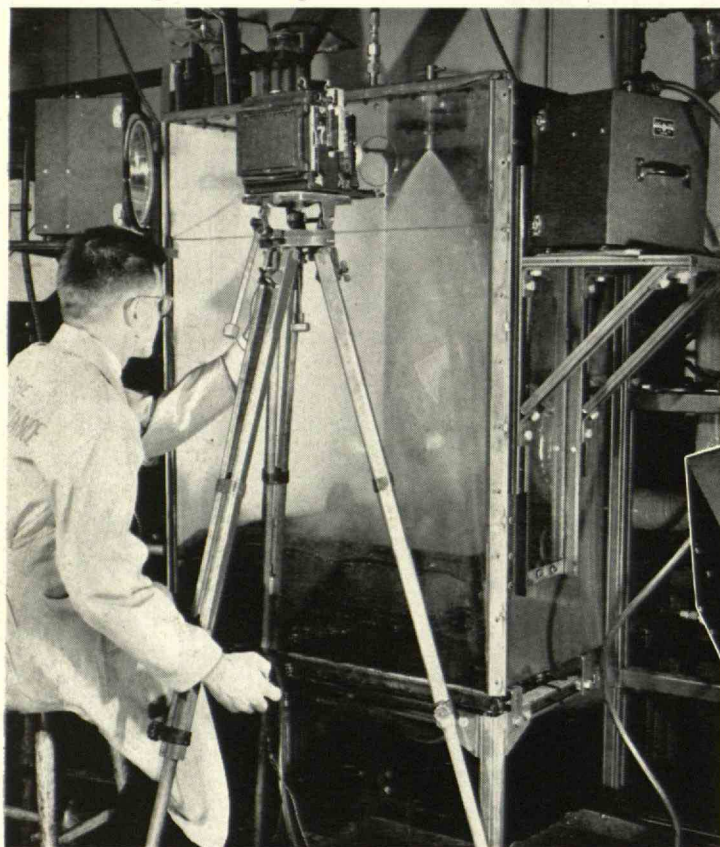
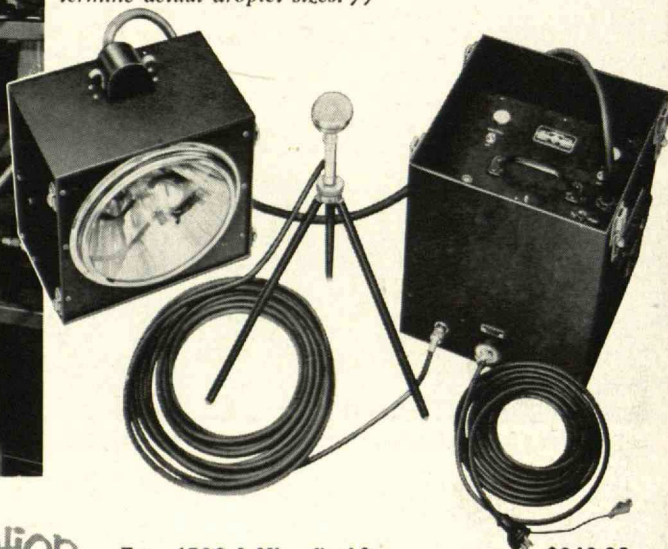


Photo courtesy Parker Appliance Company

“Flash bulbs of 1/80 second to 1/170 second light duration would not stop the high-velocity droplets in the atomized fuel spray. A commercially available high-speed electric flash with light durations as small as 1/30,000 second was also found unsatisfactory.

“Excellent photographs are now obtained using two synchronized Microflash units. These are located approximately 15 inches from the spray cone at 90°. Full size enlargements can easily be made and droplet sizes qualified. Photographs obtained are studied under a calibrated microscope, to determine actual droplet sizes.”



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